

# AMERICAN VETERINARY REVIEW.

DECEMBER, 1896.

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## EDITORIAL.

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### VETERINARY DENTISTRY.

It is, we believe, a fact that this speciality of veterinary surgery is of American origin, and it is generally admitted that those of our confraternity who have given their attention specially to it have obtained a manual dexterity that is not always found in the ordinary general practitioner. It is by many considered merely as a matter of confidence in one's self—a confidence which will permit one to dispense with the so-often injurious mouth speculum, and then not only see, but almost do better, by adding to sight the delicate sense of feeling. It is certain that the manner in which our dentists and many of our graduates inspect the mouth, feel the irregularity and sharpness of the teeth, the condition of the rubbing surfaces, the state of health or disease, and with such an exhibition of confidence, of no fear to have one's hand crushed or even cut, would make many of the European veterinarians hesitate to use the same means.

American veterinary dentistry, though young, having been started but a few years ago by Dr. House, who by it made for himself quite a deserved reputation, has been the cause of much mischief and harm and injury. But still it has done much good and been of great advantage in many instances, among which we believe that recorded to us by Prof. Ryder, of New York, stands probably at the head.

Some five years ago the doctor was asked if he could not

do something to relieve a horse of his bad habit of pulling. Having examined the animal's mouth he observed that the anterior borders of the first two lower molars were worn and notched ; he thought then to smooth them, and to file the upper and lower teeth in such an oblique direction that they would not touch each other by their front part, but form a V shape, with the base turned forward, the apex backwards. In the attempt the rubbing surface of the first and second molars of both jaws were thus filed and the contact between the teeth took place only from the third molar back. The result was more than satisfactory. The horse stopped pulling. Prof. Ryder applied this to other horses, who always obtained relief.

The result thus derived, though probably not answering all cases of pulling horses, is one that we believe is generally unknown to our colleagues at large, and which it is to be regretted Dr. Ryder omitted to have made known before this.

A question, however, has presented itself as a consequence of the operation, which is peculiar, and that is *whether or not an animal thus operated upon can be considered as unworthy a clean certificate of soundness at the time of purchase.* The mouth has been tampered with, the operation has for its object to *conceal* a bad habit, it deceives the purchaser, or at least has a tendency to deceive him, are the reasons invoked for an affirmative answer. It seems to us that the refusal of a certificate of soundness on that condition is at least an exaggeration on the part of the surgeon who makes the refusal, and that the letter and the spirit of the law do not justify it. An animal whose long teeth have been shortened to make it appear younger to the careless observer is not considered unsound for that reason ; one whose teeth have been bishopped to conceal his age is not rejected as unsound ; one whose molars have been nipped, cut, or filed because of their irregularity and length, which prevents him from chewing, is not refused the certificate demanded by a purchaser, and yet their teeth have been tampered with, just as much as when filed to prevent his pulling, with the exception that the essential condition of his usefulness has been

improved and that would scarcely be a detriment to his value or a prevention to his doing good work, satisfactory to his owner.

Be this as it may, the operation of filing the two front molar teeth, in an oblique direction, to prevent a horse from grabbing the bit between them, and arrest his pulling, is an addition to our means of relaxing a bad habit, which is due to American veterinary ingenuity and observation, worthy of entering into general practice.

**THE ARMY BILL.**—There is no doubt that veterinarians are in earnest this year in their efforts to give assistance to the Committee on Army Legislation of the United States Veterinary Medical Association. Most of the efforts which have come under our observation are most intelligent and well-directed, but that of the New York State Society is especially systematic and effective. The energetic and earnest Secretary of that Society, Dr. Claude D. Morris, has sent to fifty prominent veterinarians resident in the various congressional districts of the State, a copy of the bill and the report of Adjutant-General Geo. D. Ruggles, together with a thorough analysis of the merits of the Army bill, with the following letter of request to the veterinarians:

NEW YORK STATE VETERINARY MEDICAL SOCIETY.

SECRETARY'S OFFICE,

PAWLING, N. Y., November 2, 1896.

MY DEAR DOCTOR : I enclose you a copy of a bill which has been favorably reported by the Committee on Military Affairs in the Lower House of Congress. You will see that the purpose of the bill is to give rank to veterinary surgeons employed in the United States Army. It needs no argument to prove that this is a step in the right direction. The enactment of this bill would establish the profession in the army in a position which it has a right to enjoy, thus making the services of the veterinarian in the army of far greater efficiency than is possible in his present condition. Under the enactment of this bill the veterinary surgeon would be a commissioned officer of cavalry, having rank and authority. The bill is not in the interest of a favored few. It's in the interest of the profession at large, asking for position of rank and social standing in the United States Army. Will you see your Member of Congress, and, if possible, get him to commit himself, that he will support this bill at the coming session of the House of Representatives. Please report to this office the result of your efforts in this matter at as early day as possible.

I beg to remain most sincerely yours,

C. D. MORRIS, *Secretary.*

We have no doubt but that the method of the New York

Society will be productive of much good, since it is directed at the very foundation of the law-making power, and an attack upon the same force in other States cannot but bring this just and long-delayed cause in its proper aspect before those who should be made to understand the true merits of the appeal.

A TEST.—Notwithstanding the fact that a law, with a number of amendments, exists in the State of New York requiring all practitioners of veterinary medicine to register at the county clerk's office and to obtain the necessary State certificates or licence, it is a well-known fact that there are many in that State who ignore the law and go on practising here and there, to-day in that city, to-morrow in another. Through the exertions of the Committee of the Veterinary Society of the County of New York, of which Dr. O'Shea is the chairman, it has been decided that the validity of the law should be tested, and to that effect, at one of the last meetings of the Society, measures were voted authorizing action of the committee. A gentleman from Kansas City was known to be practicing in New York for some time without having complied with the law; a warrant was obtained for his arrest, and was executed as he was about entering the Horse Show. When arrested he claimed that he had heard that he was going to get into trouble, and that then he sold his instruments and went out of business. We hope that the explanations will not allow him to escape the punishment imposed by the law. The Veterinary Society of the County of New York has done well and deserves great credit for its action. Veterinarians of the State will no doubt send their congratulations to the chairman of the committee, who, we are informed, did on that occasion, as he always has done when working in similar capacities for the benefit of the profession, acted quietly and modestly, being satisfied only with the good that resulted from his efforts.

SECTION WORK IN THE U.S.V.M.A.—We are pleased to note that the observations made by this journal in its account

of the late meeting of the National Association in Buffalo in reference to the prosanitary character of the deliberations is beginning to bear fruit. The REVIEW made no complaint that the great and all-important question of State medicine was receiving too much of the attention of the association; but that the interests of the everyday practitioner were receiving too little; were being crowded out by the papers and discussions upon the subjects of tuberculosis, hog cholera, etc. We are, therefore, gratified to find in the November issue of our esteemed contemporary, the *Journal of Comparative Medicine*, an advocacy of the system of section work in the association, and offering its pages to members for the discussion of the means best suited to produce these ends. The REVIEW enters heartily into the question, and will be glad to publish any suggestions which its readers may have to make in furthering this aspect of the work. The journals should be the forum for the free discussion of policies looking to the advancement of our profession, and the preliminary work of the convention of 1897 can be transacted largely through the opportunities thus afforded.

VETERINARY HOMEOPATHY.—Elsewhere in this number of the REVIEW is printed a paper read before the last meeting of the Pennsylvania State Veterinary Association by Dr. Jacob Helmer, of Scranton, and it is one worthy of careful reading by the members of our profession, as it is the outcome of a considerable amount of earnest thought and intelligent experiment and observation by a very bright student of scientific medicine, especially in the relation of science to practice. We are disposed to believe that the results obtained by Dr. Helmer are those which would naturally follow the application of that system of medicine upon our dumb patients. The younger members of our profession are prone to seek some distinctive method of practice, and they would gather much wisdom by a careful perusal of the conclusions of one who has thought much and thought well.

VETERINARY EXAMINERS OF MARYLAND.—We acknowl-

edge the courtesy of Dr. A. W. Clement, the efficient secretary of the State Board of Veterinary Medical Examiners of Maryland, in sending us a copy of a little pamphlet recently issued by them giving a list of all veterinarians registered in that State, together with their law, and the act creating the State Veterinary Sanitary Board for the control of contagious and infectious diseases. The work is the outcome of the individual enterprise of the members of the board, who hope to be reimbursed for their outlay from the sale of the book. It is a valuable reference book, and will be of great assistance to all requiring such a compend.

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## ORIGINAL ARTICLES.

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### **HOMEOPATHY IN VETERINARY PRACTICE—WHY I DO NOT PRACTICE IT.**

BY JACOB HELMER, D.V.S., SCRANTON, PA.

A Paper read before the Pennsylvania State Vet. Med. Association, at Reading, Oct. 6,  
1896.

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Systems of healing, like those of religion, attract their following by virtues real or imaginary. Attracted by superior virtue, intelligent and honest men have forsaken one form of religious belief for another or have abandoned a mode of healing which circumscribed their ability and skill. This is right. It shows a spirit of progression. Investigation is the mother of progress.

Articles tending to show the advantages of homeopathy over the regular treatment in medicine and the reports of success with remedies applied according to this system have appeared in our journals as evidence of a progressive tendency on the part of the writer. But the experiences reported have to the extent of their influence tended to array homeopathy against the regular practice; that this was not the motive is evident from the diffidence as well as the acknowledgment of limited experience in this mode of healing. Charlatans have, however,

thus arrayed the two systems, and by dint of assertion and persuasion have crowded themselves upon the field of veterinary medicine with the object of selling their wares. Compilations of veterinary homeopathic *materia medica* have been issued ostensibly with the same purpose of advertising and selling their wares. Translations of foreign homeopathic veterinary works are offered. Under the law of competition such things are natural. It is called business. But we are the representatives of science in our field. By means of recorded observations we build the substantial edifice of veterinary science. We would not remove a stone from this edifice if we could not replace it with a better one. The question is, can we to any extent reconstruct this edifice on the principles of homeopathy? My note-book discloses that during a period of two years we treated diseases with the homeopathic and regular methods in order to form an idea of their comparative value. By comparison we see quickly the perfections and imperfections of the things compared.

History shows that the *regular* or *rational* school of medicine has been a development unhampered by any restrictive tenets. Its foundation stones are reason, experiment and experience. Its *aim* has been *truth*. It accepts truth from any quarter. Recognizing disease as an entity it has developed the sciences that include the phenomena of causes, viz., anatomy, physiology, biology, pathology, morbid anatomy and bacteriology. Operating in sympathy with nature's laws, it seeks to remove causes. It does not claim to cure disease, but recognizes the healing power of nature. It uses every reasonable means to accomplish results. It stands ready to reject the ideas and methods of yesterday, if it can substitute better ones to-day. It is progressive. It is not an exclusive system. It has not discovered any universal law of therapeutics. It does not claim to have found any law in nature either of similars or opposites according to which drugs exclusively influence the animal organism. It has witnessed the birth and death of exclusive systems. It needs not to go outside of itself, in direct disobedi-

ience to the principles of any founder, and appropriate the good of all in order to save its very life. It does not owe its success to credulity and superstition. It has been the most successful. It has not been driven by time and discovery to the humiliating spectacle of modifying and eliminating itself until scarcely anything remains but its flag.

On the threshold of experience with any method of treatment we must first learn its principles, conform to its rules and accept the conditions it imposes upon us. The work announcing and elucidating the principles of homeopathy was published by its founder, Samuel Hahnemann, in 1810. He named it "*The Organon of the Healing Art.*"

On page 103 of the "*Organon*" he says: 1. *Similia similibus curantur* (likes are cured by likes) is the only therapeutic law—that is to say, the only salutary treatment is that method according to which a disease is combatted by a medicine capable of creating in the healthy body symptoms most similar to those of the disease. 2. The totality of the symptoms is the only guide to the physician in the administration of remedies—that is to say, every drug, before it may be properly employed in treating disease, must first have been administered to a person in health, and the symptoms produced thereby recorded in order that their similarity or dissimilarity may be compared with those from which a patient may be suffering for whose relief a drug is sought to be administered. All that the physician may regard as curable in disease consists entirely in the complaints of the patient and the morbid changes in his health perceptible to the senses. 3. The only true method enabling the physician to select the proper remedies in disease is to prove them upon persons in health. That is to say, every drug before it may be properly employed in treating disease must first have been administered to a person in health and the symptoms produced thereby recorded in order that their similarity or dissimilarity may be compared with those from which a patient may be suffering, for whose relief a drug is sought to be administered.

To be consistent with these principles and to obey this therapeutic law we must experiment upon the various classes of the lower animals to find what drugs will produce symptoms similar to the symptoms of diseases we desire to cure. But has this been done for veterinary homeopathy? (if I may be permitted to use the expression). Some authors on veterinary *materia medica* are silent on this point. Another speaks of careful provings having been made, but we have seen no record. But we know that animals have been utilized by the regular school as well as the homeopathic to demonstrate the toxic power of remedies to be used in the treatment of human diseases.

But, admitting for the sake of argument that careful provings have been made upon different species of the lower animals, the results obtained are meagre, since only the objective symptoms produced by the drug can be noted. But some of the objective symptoms thus noted are unreliable, especially such as relate to the disposition and movement of the animal. Here it requires the discrimination of the prover to determine whether this class of objective phenomena are the primary result of the drug or are secondary to some influence produced by the drug.

Hence the symptoms which may be considered reliable, obtained by proving drugs upon the lower animals, are those indicated by the pulse, pupil, conjunctiva, the visible mucous membranes, the skin and the excrements of the body. But the therapeutic laws of Hahnemann demand all possible symptoms obtainable from the action of a drug on every organ and tissue of the body. The subjective symptoms are, therefore, indispensable in a system in which symptoms are everything and morbid conditions and causes are nothing. "They fancied," says Hahnemann, "they could find the cause of disease, but they did not find it, because it is unrecognizable, and not to be found, since by far the greater number of diseases are of a dynamic (spirit-like) origin and nature; their cause, therefore, remaining unrecognizable."

Observe that in the second part of the law quoted from the "Organon," it declares that the totality of the symptoms is the

only guide to the physician in the administration of remedies. To meet this ever-varying totality of symptoms and to find their correspondences it has been found necessary to conduct extensive provings. The homeopathic encyclopedia of pure *materia medica* is an evidence. It consists of ten large octavo volumes of about 700 pages each; but if only the objective symptoms of the proven were necessary to establish the system of homeopathy such extensive provings would not have been made. But the subjective symptoms have been considered indispensable both to better fulfil the law of *similia* and to find remedies that will do better work.

But limitation to the intelligent and successful practice of veterinary medicine may be shown in another way, and this directly attacks the integrity of the therapeutic law upon which homeopathy is based. In my experience, the infinitesimal dose does not appreciably affect animals either in health or disease, but doses large enough to cause appreciable symptoms in the pulse, pupils, muscles and mucous membranes, if administered in a disease characterized by the same or similar symptoms, will intensify those symptoms instead of relieving them. This you have observed in the use of belladonna, aconite, nux vomica, etc. Therefore, the law of *similia similibus curantur*, practically followed, as we must follow it in veterinary practice, becomes null and void.

A consideration of the breadth and scope of the rational system applied to the practice of veterinary medicine, when compared with the limitations naturally imposed upon the homeopathic system, when it deals with the maladies of the lower animals, ought to weigh in favor of the former method, and, unless it can be shown that success is more common and certain in homeopathy, ought of itself alone to deter one from adopting a circumscribed method.

Homeopathy in veterinary practice, finally, means to become a merely routine practitioner. To rely for success upon a supposed specific judgment, discrimination and skill can only be exercised in the selection of the remedy. Symptoms are everything.

Causes and morbid conditions are nothing. It is not necessary to know the nature of a remedy, how it acts, or upon what it acts. If its symptoms correspond to those of the disease the physician has done his work well. This reduces the practice of medicine to a simplicity.

Homeopathic remedies consist practically of tinctures and triturates. The tinctures are about the same strength as those of the U. S. P. The metallic and insoluble remedies are prepared in milk sugar and dispensed in this form. The strength of a remedy is its dilution or potency. To produce a uniform series of dilutions a scale was introduced by Hahnemann, called the centesimal scale. According to this scale one part of the mother tincture or powder is mixed with 99 parts of alcohol or milk sugar. This forms the first dilution or potency. One part of this dilution in 99 parts of alcohol the second dilution. The principle is that the first potency must contain  $\frac{1}{100}$  part of the strength of the remedy and the succeeding potencies each  $\frac{1}{100}$  part of the preceding one.

But more recently another scale has been introduced—the decimal scale. By this scale one part of tincture is diluted with ix parts of alcohol, and similarly with the powders, one part in ix of milk sugar to form the first potency. In respect to the size of the dose authorities vary; some recommend the higher potencies, those above the 30th. Others the 30th potency. Others the third dilution of tincture and the sixth of insoluble remedies.

But an exception is made of carbolic acid, aconite, rhus tox., bryonia and others which may be used in the first or even in the form of the mother tincture. In applying homeopathy with the object of testing its value in treating the diseases of the lower animals it is necessary to form at least two classes, these were the acute critical and the acute non-critical. Of acute non-critical cases one-half were treated with homeopathy and the remainder with no medicine. In non-critical cases of pneumonia treated with high or low dilutions or with no medicine I could find no substantial difference. The cases ran the course marked

by various changes in each case according the natural history of the disease and the age, temperament and vitality of the patient. There were differences, but it was not reasonable to refer them to anything besides natural causes. There was no noticeable effect of the remedy upon the pulse, respiration and temperature. Practically in horses I found no difference between the first or third or thirtieth potencies in non-critical cases of pneumonia. In acute non-critical cases of disease in the horse of whatsoever nature the experience was the same. The hygiene and diet were made the best possible. The superiority of the regular treatment was established in its power to abort colds and incipient diseases of the respiratory tract. In some acute critical cases nature seems powerless when rational treatment may and does save life. Rational after-treatment lessens the convalescing period and prevents relapses. I had no success with homeopathy in cases of toxic poisoning. In cases where pain was an element to subdue. In impaction of the bowels, anaemia, vitular fever in cattle, azoturia, colic, chorea, diabetes insipidus, laminitis, tetanus, purpura, rheumatism, and collapse. I do not mean that cases so treated did not recover, but cases treated *placebo* recovered. But the action of the remedy could not be traced, no desired effect could be produced. My tools were not tools. But acute critical cases will do better without medicine, unless such treatment be intelligent and not a hindrance to nature. Regular treatment not intelligently used is worse than no treatment. Here homeopathy may win a few laurels and somebody think they have made a valuable discovery. An unsuccessful regular practitioner in using drugs to alleviate disease, can become a successful homeopathist. Nature's tendency to heal must be fully recognized. In cases in which the regular treatment was of no value in my hands, homeopathic treatment did not demonstrate its superiority.

In the study of the principles of homeopathy one is surprised at the large number of the same or similar symptoms produced by drugs of a dissimilar nature. Again, the number of diseases dissimilar in their nature and manifestation that are

treated by the same remedy. Gunther mentions eighteen remedies useful in paralysis and indicates that there are many more. Haycock uses arsenic in about fifty diseases of the lower animals; aconite in over thirty diseases. Do all these dissimilar diseases have a totality of symptoms to correspond to the totality of the symptoms produced in an animal by a single drug? But it occurs that the symptoms of a disease may be removed in an animal and the morbid condition remain. Again drugs do not produce the same or similar symptoms in healthy animals that are produced by some maladies which are treated by these drugs. Strychnine does not produce symptoms like paralysis, but it is used in paralysis by homeopaths. If the therapeutic law of Hahnemann were true most maladies would be incurable.

Homeopathy is not based on nature, but upon nature's most superficial and variable phenomena—symptoms. No system can become scientific on such a basis. A few years ago I joined a class in Christian Science. In this system patients were cured of their maladies of whatsoever nature; ruptures were declared healed; tumors were dissipated; rheumatics threw away their crutches, and bed-ridden subjects walked again. It looked like an era of miracles revived.

The founder of Christian Science in America, Mrs. Mary B. G. Eddy, was a homeopathic physician. In her work, "Science and Health," she says, speaking of fevers, such as scarlet, typhoid, etc., that the higher the dilutions given the better success. She says it is not medicine but mind that heals. From this experience Mrs. Eddy thought she had discovered another proof of the power of mind to heal. But Dr. Robert Bartholow, in his work on "Materia Medica," says, speaking of the same subject: "Since we have learned the natural history of certain fevers, such as scarlet and typhoid, we find they can be most successfully treated with little or no medicine." Here was the secret and the truth. Christian Science condescended also to treat animals. We tried it. It was "weighed in the balance and found wanting." Were it not for human ignorance and credulity Christian Science would have no following. But side

by side with the boasted cures of Christian Science, I place the boasted cures of homeopathy and refer both these systems to nature, the only healer. But what benefit can these systems hope to achieve in treating patients that can exercise neither faith nor imagination? But the homeopathic physician of to-day is instructed in anatomy, physiology, pathology and allied sciences. He tells you that under the privilege of expedients he may employ by any means a remedy or a dose in order to effect a cure. But here the law of *similia similibus curantur* practically ends. Only in a very limited sphere is the great therapeutic law subservient, and in that sphere mind cure and homeopathy meet.

In order to correct a wrong impression and one apparently shared by some physicians, let me state here that there is no Allopathic School. Hahnemann coined the word allopath and applied it to those opposed to his principles. To be an allopathist would mean to be a member of an exclusive school. The principles underlying our school have been already mentioned. Again we are spoken of as the "Old School," in contrast with the "New School," meaning homeopathy. If by this is meant that ours is a school of antiquated and non-progressive ideas the name does not fit us. What valuable discoveries have been made in medicine that were not made by the regular school? No one will assert that homeopathy has placed a stone in the edifice of pathology or added any fact of value to medicine. The great therapeutic law of homeopathy was not original with Hahnemann. Paracelsus had announced it 300 years before Hahnemann had his practice and begun to experiment upon the action of drugs upon persons. The results obtained he called provings. To-day provings yet constitute the mass of homeopathic literature. By careful provings it is shown that drugs may produce almost an endless number of symptoms; from 2000 to 3000 having been recorded of some drugs. Dunham says it is scarcely possible to analyze the actions of belladonna upon the human system. But a comparison of these provings shows that many drugs of opposite nature will give the same

proving. That the provings include the sensations of the organism that occur during the proving period (but independent of drug influence) there can be no doubt.

One thing, however, was original with Hahnemann. It was the idea of the infinitesimal dose ; the potentizing of drugs. He believed that the higher the potency the greater would be the power of the drug. None were high potencies unless above the 30th. No known method of science can detect a trace of medicine in a potency above the fifteenth ; scarcely above the third. It cannot be the medicine, then, that is so powerful to cure. It is now held to be the potentiality produced by giving the vehicle containing the drug a certain number of shakes. Twelve shakes for a tincture and so many turns for a triturate. The more shakes and turns the more power in the remedy until it may become very dangerous. Every drug is held to have a certain definite molecular activity, which by shaking is imparted to the vehicle. Thus the vehicle becomes the remedy. It in turn imparts its molecular activity to the diseased protoplasm, which it restores to a normal condition. But this modern and ingenious explanation has not and cannot be demonstrated. It is not, therefore, of any scientific interest. But, as before mentioned, since the safety of the law of similars depends upon the infinitesimal dose, it becomes necessary to resort to ingenious theories to prove there is virtue in the medicine prescribed in this manner. But we are not informed why the vehicle does not impart its molecular activity to the drug or why the drug as it grows infinitely less in higher dilutions yet imparts an increased molecular activity. Hahnemann taught that when an insoluble substance was raised the 3d potency in milk sugar, to obtain the 4th potency alcohol might be used, since the drug at this potency becomes soluble. It is to be presumed that his sense of sight and taste gave him all his knowledge of chemistry.

There are upwards of eight hundred remedies in the homeopathic pharmacopoeia. The U. S. P. contains less than one half that number. The remedies are drawn from every department

of nature ; some of them will be regarded with curiosity and surprise. *Apis mellifæ* is made from the stingers of bees. *Lachesis* from the venom of a poisonous snake. *Lyssin* from the saliva of a mad dog. *Vulpis hepor* from the liver of the fox. *Mephites* from the odor substance of the skunk. *Psorinum* is prepared from the pus of the human itch. A tincture has been prepared from the pus of gonorrhœa and administered internally to cure that disease. The insect world furnishes the bed bug, cockroach, house fly, head louse, wood louse, ant, potato bug, spider and others. These insects are crushed and their juices received into alcohol or milk sugar. These tinctures are used for internal medication. The tendency to use the remedies and doses of the regular school of medicine has become general among progressive homeopathic physicians. A travelling man for a wholesale drug house informed me recently of his having good customers in the homeopathic fraternity. That he sold more tablets to homeopathic than to regular physicians.

The homeopathic physician who a number of years ago urged me to practice veterinary homeopathy and who treated me with homeopathic remedies, gave the following prescription to one of my acquaintances : *Potassi* ; iodide,  $\mathfrak{z}$  iv ; *stillingii*, fl. ext.,  $\mathfrak{z}$  ss ; *syr. sarsaparill. co.*, ad  $\mathfrak{z}$  iv. Sig., etc. I reproached him with : "Doctor, is this homeopathy ?" His reply was, "What difference does it make if the medicine will do the patient good ?" These illustrations show that the law of "similia" is not sufficient and is only partly adhered to and then in minor ailments of the human family and in maladies that require more nursing than medicine. The Homeopathic Society of New York in 1879, by a vote of thirty-three to fifteen, resolved that in the treatment of disease the formula *causa sublata tollitur effectus* (cause and effect) is often to be remembered and used to advantage.—(Browning on "Homeopathy.") In a recent number of the *Homeopathic Monthly* Dr. Duke makes the broad statement that the law of similars is not applicable to any diseases which are characterized by destruction of tissues, or where the cause cannot be removed, or to such as are due to

chemical action, mechanical violence, or unhygienic surroundings.—(Browning on "Homeopathy.") The *Medical Investigator* (a homeopathic publication) in 1876 said reprovingly : "How many claiming to be homeopaths are entirely disregarding the law of *similia*. It is getting to be quite a rare thing to hear of a homeopathic practitioner conducting a serious case from beginning to end without using as such cathartics, sudorifics, diuretics, etc., in direct opposition to our law."—(*Encyclopædia Brit.*, 9th Ed.) Says a writer in the *Homeopathic Times* : "To give one or more persons a drug, and register all their peculiar fancies and ideas, does not furnish any reliable evidence of the real effects of the drug." Says one homeopathist ; "The question of potencies seems to have aroused a spirit of contention in the homeopathic fraternity about as bitter as any between the old and the new." Dr. Kidd says : "I have cast dynamized drugs *in toto* as untrustworthy and unjust to the sick."—(Browning on "Homeopathy.")

With the homeopathic house divided against itself—with modern medical discoveries tending away from and not toward the doctrine of *similia*, isopathy is in no scientific sense like homeopathy. With the achievement of excellent success in the field of veterinary medicine according to the rational principles of the regular school, with boundless scope for the exercise of inventive genius and investigation afforded by a system of medicine that is bound by no law, but is free to work out the secrets of nature in her department through the exercise of observation, experiment and reason and thus to eliminate error and arrive at truth, should we not be proud to be workers in such a field ? To any who wish to investigate this matter I refer them to works from some of which I have quoted, viz., "The Organon of the Healing Art," "The American Homeopathic Pharmacy," "The Homeopathic Encyclopedia of Pure Materia Medica," "Hahnemann on Chronic Diseases," Gunther, Haycock, and Boerichs and Tafel on "Veterinary Materia Medica," "The Encyclopædia Brit." 9th Ed. Also to an admirable essay on "Homeopathy," by Dr. Browning, of New York.

## NEUTRAL RED IN HISTOLOGY AND BACTERIOLOGY.

BY PIERRE A. FISH, D. Sc., D.V. S., N. Y. STATE VETERINARY COLLEGE, ITHACA, N. Y.

Neutral red (*Neutralroth, rectif. nach Ehrlich*) in weak solutions of 1-10,000 or thereabouts, has been demonstrated to possess considerable efficiency in the staining of vital tissues, but some difficulty has been experienced in finding a trustworthy mordant to prevent the dye from washing out of the stained tissues too readily. For the study of living protozoa it has proven of considerable service, but for higher forms which must undergo killing, imbedding and sectioning, there have been manifest difficulties encountered. Quite satisfactory results, however, were obtained in the case of a tapeworm (*Dipylidium*) found in a dog. The living worm after an immersion of 12-15 hours in normal salt solution with enough of the neutral red salt to tinge the fluid, became markedly colored but somewhat shrunken owing to the difference in the temperature. In order to avoid the removal of the dye from the specimen and to prepare the tissue for the subsequent processes some of the segments of the worm were immersed in a 3 to 5 per cent. solution of formalin also tinged with the dye. After 12-24 hours the tissue was thoroughly fixed and there was no diminution in the color. The subsequent treatment was that as ordinarily employed for *in toto* staining. The superfluous stain was removed during the passage of the tissue through the alcohols, and the specimen, after dehydration and clarification was mounted in balsam.

Portions of the vertebrate nervous system have also been simultaneously fixed and stained *en masse* in the formalin-neutral red mixture, and, after imbedding in collodion or paraffin, have been sectioned and mounted with very satisfactory results. Section staining has also resulted very satisfactorily, if the sections are treated with absolute alcohol immediately after staining. With lower percentages of alcohol the color is generally all washed out by the time the tissue is dehydrated. The dye is also soluble in most of the clarifying reagents, so that in order to obtain the best effects the absolute alcohol should be allowed

to act only just long enough to dehydrate the tissue, then clarify with xylol (which does not remove the dye) and mount in balsam.

The dye seems to have an especial affinity for the chromatin of the cells, staining this substance more or less intensely and leaving the remaining tissue colorless. Under proper conditions it would seem as if it might exert some special action on the neutrophilous tissue elements.

In addition to its histological uses neutral red has been found serviceable for some bacteriological purposes. As the name indicates the salt is of a neutral character, and a trace of it in a small beaker of water causes the mixture to assume a pinkish color. This solution has been found useful as a test and a more delicate one than litmus paper for determining the alkalinity of culture media. If the media be acid or neutral there is no marked change in the red when a portion of the media is added unless there be a slight deepening of the pink color; but if the media be alkaline and a few drops be added to the neutral red solution and slightly agitated the mixture immediately changes to a brown color.

In aqueous solutions the neutral red, if treated with either sulphuric, hydrochloric or nitric acid, at first shows no change, but if a sufficient amount of either acid be added the color changes from red, first to purple and then to a deep blue. If acetic acid be added to the aqueous solution of the neutral red there is no change except perhaps a slight deepening of the color.

In an alcoholic solution, the neutral red presents a light brown or amber color; upon the addition of an alkali (sodium hydrate) this is not changed except for a general lightening of the color due to the dilution. If the alcoholic solution be treated with hydrochloric acid added in increasing quantities it changes first to a red and then to a light blue; if treated with nitric acid the solution changes to a red and then to a dark blue; if sulphuric acid be employed the change is first to a red and then to a bottle-green color. Acetic acid changes the alcholic solution to a pinkish-red color.

As a result of these crude experiments, the idea quite

naturally presented itself that the neutral red solution might be incorporated with the culture media and the reaction of the different bacteria observed directly during their growth. In the experiments which followed a number of micro-organisms were utilized among which were the following: *bacillus cholerae suis*, *Proteus vulgaris* and *mirabilis*, *bacillus* of *diphtheria*, *bacillus fluorescens liquefaciens*; *bacillus anthracis*; *comma bacillus*; *bacillus typhosus*; *bacillus acidi lactici*; *staphylococcus pyogenes aureus* and a yellow sarcina.

The report of the results is purposely crude and generalized. A few certain well known and representative forms carefully tested with the various media under different conditions would do much towards elucidating the possession or absence of specific chemical reducing powers.

In the preparation of the cultures a  $\frac{1}{5}$  per cent. solution of the neutral red salt was used. This was thoroughly sterilized, and then with a sterilized pipette ten drops of the "red" was added to the already sterilized media (bouillon, agar, or gelatin). The proportion being approximately 10 drops of the  $\frac{1}{5}$  per cent. solution of the red to about 8 cc. of the media. The resulting mixture was a bright garnet red color. Besides the ordinary tube and plate cultures, fermentation tubes containing glucose, saccharose and lactose were utilized. As in the case of the others, the neutral red was added to the already sterilized media; but on account of the admission of more or less air when the red and media were mixed, the fermentation tubes were again heated in the sterilizer and the bubble of air in the closed tube tilted out so that the reducing properties of the mixture might not be interfered with.

The results obtained, with the various media employed and the action of the different micro-organisms upon them, may be briefly summarized into two general classes of phenomena:

1. Those organisms which change the garnet red media to a fluorescent and then to an ultimate brown color.
2. Those which do not cause fluorescence nor change the red color except to deepen it.

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In general the fluorescent and brown color indicate an alkaline reaction; the red the presence of an acid or a neutral condition. Between these two groups some intermediate conditions may be found, as for instance, when the media may contain a greater or less amount of grape sugar, certain of the bacteria may give, at first, an acid followed by an alkaline reaction; or an apparently opposite condition may be shown as in one case of the bacillus coli communis grown in a fermentation tube of glucose. There soon appeared the fluorescence but the litmus paper demonstrated an acid reaction, later the fluorescence disappeared and the characteristic red (acid) color returned.

The change of the red to the fluorescent and brown color is, in general, caused by the alkalinity; but it will also be remembered that alcohol turns the red to a brown, and that with the proper conditions as to the presence of grape sugar and reaction of the bacteria, some alcoholic fermentation may be set up, which in the above mentioned case of the bacillus coli in glucose, may account for the unexpected fluorescence with an acid reaction and likewise be of some service as a test for alcohol.

When fluorescence does occur in the fermentation tube it is usually more distinctly shown in the closed tube than in the bulb. The greater volume of the fluid in the latter is perhaps the explanation for this.

Rather an unusual amount of crystallization developed in the agar and gelatin media. While this phenomena is not uncommon in these media as ordinarily used, the addition of the red seemed to develop the crystals quite constantly and in unusual quantities. They were quite inconstant as to color, size and form, in the different species and the variations met with in these respects, although perhaps of no use diagnostically, seemed, nevertheless, worthy of mention.

'94 Ehrlich. Ueber Neutralroth, *Zeit. f. wiss. Mikros.* XI.—250. [Abstract.] Aus dem Bericht "Uber dem Ehrlichschen Vortrag im Verein für Innere Medicin" zu Berlin 18/12, 1893. *Allgem. Med. Centralzeitg.* 1894. No. 2, p. 20.

'94. Galeotti Gino. Recerche sulla colorabilità delle cellule viventi.  
*Zeit. f. wiss. Mikros.* XI. 172-207.

## DIABETES MELLITUS IN DOGS.

By FRANK H. MILLER, V.S., BURLINGTON, VERMONT.

(Concluded from page 552.)

*Case No. 5.*—White poodle, male, 10 years of age, brought to the institution for humane destruction, which was speedily carried out by intra-thoracic injection of hydrocyanic acid. No history whatever could be obtained, but, owing to the extremely fat condition, accompanied by perfect bilateral cataracts, a small quantity of the urine was obtained and tested, and according to Trommer's method, yielded sugar in abundance. The fermentation estimates indicated nearly 9 per cent. of grape sugar present. Owing to the hour and to the fact that such animals as are not officially entered as inner patients are not examined in the Pathological Institute, I had the opportunity to witness a somewhat rapid but instructive examination, conducted by one of the assistants. The entire viscera appeared by gaslight to be in a healthy condition. The kidneys especially seemed to be in a remarkably good state, considering the kind of patient and the age. On most thorough microscopic examination of the pancreas, liver and kidneys by my American friend, Dr. T. Klingmann, of Virchow's Laboratorium, and myself, we found the liver to be fatty metamorphosed and especially at that part of the aceni lying toward the venæ centralis, the cells being in great part obliterated; kidneys normal. The pancreas was shrunken in its histological elements, and was in various parts fatty infiltrated and in others fatty metamorphosed. The nucleoli were for the greater part obliterated and dense fibrous tissues penetrated the aceni in various directions.

*Case No. 6.*—Male, 10 years old, white terrier, was presented at the polyclinic for small animals, June 5, 1896 (same day as case No. 5 came under observation), with this history: He had always enjoyed good health until about three weeks ago, when he suddenly developed blindness in both eyes, and had shown great exhaustion in moderate exercise during warm weather, and drank inordinate quantities of water, passing urine more

frequently than before. Appetite good. Urine obtained by catheter was pale, but opaque, and held albumen in goodly quantities, 1035 specific gravity, and by test gave sugar in abundance; the quantity of urine, however, would not admit of thorough quantitative analysis. He was, by request of the owner, destroyed, and on rapid examination the thoracic organs appeared quite normal. The liver was fully one-half enlarged, and of pale, brick-red color, with yellowish tinge; consistency was friable, and on cross section appeared cirrhotic. The aceni were well marked off by interstitial connective tissue; gall ducts pervious, and gall sack moderately filled; slight duodenitis. The pancreas appeared very large and thickened and firmer than is usual, and was studded by a few isolated pale spots, but which was different from the rest of the organ by color alone rather than consistency. The other organs had a normal appearance. Abdominal fat much marked. The cataracts were lenticular and quite firmly organized; indeed, at the nucleoli feeling almost cartilaginous. At the margin of the spleen was seen a tumor of robin's egg size, with a smooth covering of Glisson's capsule. This upon closer examination was found to be a small haematooma of long standing.

The microscopical examination of the organs, which was also followed out in the Virchow Labradorium gave the following results: Diffuse fatty degeneration of the entire liver. The outline of the aceni being in great part indefinable. Kidneys showed granular degeneration of the glomerular epithelium, and in patches was entirely absent. There was also similar changes noted in the epithelium of the straight tubules. The pancreas was very much increased in its connective tissue at the expense of the aceni, which were markedly shrunken and the epithelium was in part in a state of fine granular degeneration; in other large sections there was a complete change to fat, and only in rare cases was it possible to define an apparently healthy portion of glandular tissue.

These comprise the cases seen by me at the clinic, but I will refer to another authentic case which I found of interest.

In speaking of this disease in the company of certain American medical practitioners studying at Berlin, one of those gentlemen, Dr. A. E. Tausig, of St. Louis, a student in the laboratory of Salkowski, expressed surprise that the disease was accounted rare among animals, and related to me a case which developed in one of his own dogs. I will quote from a written report which he was kind enough to give me.

"Male mongrel dog, about 13 years of age, no family history obtainable, no previous illness, took but little exercise. For about one year previous to his illness the thyroid gland had enlarged until it was nearly as large as one-half the closed hand, soft and movable. This was unaccompanied by other symptoms. Later polyuria was seen, and the animal, heretofore of correct habits, began to urinate in the living apartments. This tendency so increased that he was of necessity banished to the cellar. Analysis of the urine showed grape sugar in large quantities. No direct quantitative analysis was made, however. Thirst and appetite were greatly increased. He made use of food previously refused. Emaciation, which appeared after the polyuria, was rapid and complete. He lost interest in his surroundings and appeared drowsy, but at no time was there coma. Morphia sulphatis was given in two-grain doses, each 24 hours, without effect, and finally at about the fourth or fifth month from beginning of polyuria, he was chloroformed. Autopsy showed great emaciation, thyroids large walnut size, cystic but not cancerous. Thoracic organs normal. Pancreas large, hard and nodular, and on microscopical examination seemed to be permeated by medullary cancer, most cells being of the columnar type; metastasis in the lymph glands, liver and stomach. In other respects the viscera were normal, except the liver, which was fatty."

In these reports, incompletely as they are reported, owing to the place where the cases were presented and I having at the time no idea of presenting them, there are, nevertheless, several interesting points to be noticed.

- 1st. In all cases grape sugar was present.
- 2d. The animals were all aged and fat.

3d. After polyuria appeared emaciation was quite rapid.

4th. Those cases allowed to approach a natural termination, instead of showing a diabetic coma, as of the human, rather showed depressed psyche, followed by what appeared to be intense excitement of the higher centres.

5th. The four patients which alone were examined, while showing fatty degeneration in various organs, likewise showed serious structural change in the pancreas. Whereas nearly all post-mortem examinations conducted upon animals show the changes in this gland, like those of the superficial salivary glands, outside of those incidental to digestion, to be extremely rare, very rarely indeed do the tissues of the pancreas show fatty degeneration.

That the so-called diabetes mellitus is always the result of a single, always demonstrable lesion in any one part of the body, I doubt; rather am I inclined to think that the next decade will see this name submerged from the text-books as the name of any disease, and in its place will stand a word or words which will at least have some reference to the correct pathology. Certainly as it stands to-day a name could scarce bear less meaning as to its pathology. In this day of advancement we have no more reason to be satisfied with this sort of nomenclature in our text-books for the distribution of knowledge than we would have to call acute laryngitis "hoarseness" or tetanus "lockjaw." We must look up these cases. We must study them carefully as individuals and as a profession seeking truth, and undoubtedly with this will come a grouping of what now is blindly called diabetes mellitus into several distinct diseases, with distinctly different causes, with this excretion of grape sugar in the urine only as a symptom common to all.

I have said that the pathology of these conditions is not entirely unknown, and would remind you of and would gladly, did time permit, go with you over the footsteps, as it were, of some of our modern miners of the mysteries of physiology and pathology, as they have worked their ways along the dark paths and recesses of this strange disease or diseases.

I would refer to the wonderful and fruitful experiments of Minkowski, of Strassburg, Von Mering of Hédon, and others only a little less celebrated. Probably in no other direction in experimented pathology has more thorough and brilliant work been done than by Minkowski, and, with the outcome that while he is not at present in position to state the ultra occult change in metabolism, which is evidently accountable for the seeming inability for the tissues to take up and use the sugar normally arising from alimentation and manufactured from direct metabolism of the cells themselves, they point very conclusively when the primary cause for this occult change arises, and in no manner can I make him and his work more explicit than to quote his words : "In dogs a diabetes mellitus of the gravest form followed without exception the total extirpation of the pancreas." The cases so operated upon by this man with this result are among the hundreds, and everything he has written upon the subject has been subjected to the purging fire of European criticism, but he has nobly met his adversaries, and with living proof. In the light of his experience he is led to regard this condition as one of the metabolisms brought about in some at present not known manner of interference in and disbalanced relation of the pancreas as a gland in the complex phenomena of the animal body, and would define it as a functional pancreatic disease, marked by almost or entire inability of the tissues to assimilate the sugar ordinarily provided for their nutrition, marked by glycæmia and secretion of sugar in just that quantity by the kidneys as symptoms, and he advances two theories why this comes to pass. It is not that the pancreatic fluid or juice is an all essential, or that disease of its substance may set up important changes in the nervous plexus in its region as has been maintained by some, but rather would he give us these two theories to help him work out : 1st. Either that the prime vital function of the pancreas is to take to itself and destroy or render innocuous a circulating not nearer known agent of the living blood, the constant action of which is to excite these phenomena of the

cells, or 2d. The pancreas has a direct function bearing upon the sugar-using characteristics of the animal cell, which function when not exercised is evidenced by the symptoms we are pleased to group together as diabetes mellitus.

Without entering at length the discussion of these theories, a summing up of all the evidence in sight from the standpoint of these investigations at least would greatly tend to prejudice us in favor of the former; for just as the symptoms of myxedema and fatal cachexia may be averted in the human or animal body by the presence of an extremely small particle of healthy thyroid gland tissue, so may this condition of diabetes mellitus be also completely averted by the presence of a comparatively minute portion of the active pancreas standing in living connection with the body, even though the location may vary very materially from the normal.

Owing to the small number of cases I have been able to collect, and to the fact that they allowed no opportunity to investigate them experimentally, I cannot draw any particularly valuable deductions from them. They, however, serve to show that this disease is an important one to us. We are aware of the value of just such clinical cases, even in the hands of the men who study altogether experimentally, and if you take the trouble to read their works you will scarcely find mention made of these authentic cases. Let us bring them into line, and do some work on them ourselves, even for the sake of veterinary science, and in so doing aid ourselves and our profession in the routine work which pertains to correct scientific diagnosis.

It matters not what the slip-shod graduate may sneeringly say regarding these seeming minor details in our study, we should take every means to inform ourselves of these methods and lose no good chance to apply them, for they are inadmissible to correctness, and the man who knows them and fails to apply them, to the end that he may reach the truth, is not only a laggard, but is positively dangerous to the profession. Figuratively speaking, the presence of sugar, pus, blood or albumen in the urine of our patients hold the same relation to the veteri-

nary diagnostician and his prognosis that they do in human medicine, even more, and the earlier we as members of this profession grasp these advantages just so the earlier will we surmount one of the greatest difficulties we have to contend with, the one which causes the most derision and most harms our patient, viz., unsatisfactory and oftentimes outrageously incorrect diagnosis of internal and hidden diseases of our fellow-creatures.

### CANINE DISTEMPER.

BY HOWARD B. FELTON, B. S., V. M. D., PHILADELPHIA, PA.

A Paper read before the Pennsylvania Vet. Med. Association, at Reading, Oct. 6, 1896.

Canine distemper is a disease that can be traced back to a very early period. Virgil writes of it in his "Georgics," and there is no doubt that if the records had been properly kept we would find that neolithic man was acquainted with this disorder that gave his dog the running nose and weeping eyes, and was aware that the proper treatment was a supernasal application of the pitchy products of the conifera. We find it described in the hunting books of the Middle Ages. Hewitt, an English author, was the first to recognize its contagious nature, which was afterwards demonstrated by Karle, Trasbot, Venuta, Krajewski and Laosson.

Distemper is a disease proper of canines, although it has been observed by Laosson in both domestic and wild cats, and, according to Friedberger and Fröhner, in the fox, wolf, hyena, jackal and monkey. To this list we must add man, as Zelinski, Nancki and Karpinski have recently discovered that distemper can be transmitted from the dog to man, causing in the latter tenonitis, or an inflammation of the capsule of Tenon. A full account of this interesting discovery will be found in a translation by Dr. S. J. J. Harger of an article on "The Microbe of Canine Distemper," in the *Veterinary Magazine* for June, 1895, to which article we acknowledge our indebtedness in speaking of the specific origin of the disease.

Distemper has been claimed by some authors to be variola

in the dog. By various others it has been spoken of as typhoid fever, typhus fever, scarlatina. While there are points of resemblance to all these diseases, it has been found after a careful study and comparison to be the most closely allied to measles. Both diseases affect young animals; each is ushered in by malaise, anorexia and chills. In each we have catarrh of the nasal and conjunctival mucous membranes, respiratory troubles, cutaneous eruptions and lesions of the nervous system. While the resemblance is remarkably close, however, we find in distemper lesions of the digestive tract which differentiate it from measles and assimilate it to typhoid fever, so that, taken as a whole, it must be regarded as a disease *sui generis*. As to the specific agent in the causation of distemper much has been done in the line of original investigation and research. Semmer in 1875 found in the blood and lungs of a dog, which had died of distemper, a micrococcus, and in the blood, lungs, liver, spleen and kidneys a short, small bacillus. He considered the bacillus to be the specific agent. Laosson continued the researches of Semmer and cultivated the micrococcus and bacillus in bouillon from the dog and with these mixed cultures was successful in reproducing the disease. In 1891 Schantyr arrived at the conclusion that the micrococcus heretofore described was only a pyrogenic micrococcus. From his opinion he distinguished, (1) a disease of young dogs determined by a small bacillus 1 to 2 m. in length, grouped, found in the spleen, blood, the liquid exudates and liquefying gelatine; their cultures upon serum transmitted the disease; (2) an abdominal typhus caused by a bacillus 7 to 2.0 m. long, which did not stain with Gram's method; (3) a typhoid affection due to a bacillus shorter than the preceding, which does not stain with the above method. From 1892 to 1894 Zelinski, Nancki and Karpinski made a series of observations and discovered in the discharges from the nose and eyes of dogs affected with distemper a micrococcus which was capable of producing in man an inflammation of the capsule of Tenon, and in some cases a diffuse bronchitis and pneumonia. This micrococcus is immobile and measures 8 m. It can be

grown upon bouillon and upon gelatin at  $37^{\circ}$  C. It is analogous to the streptococcus pyogenes albus, but it decomposes sugar and peptonized albumen.

Since 1893 Galli Valerio, from the pathological institute of the Veterinary School of Milan, has made a bacteriological study of this disease and claims to be the first to have discovered a bacillus in the lungs and central nervous system, inoculations of the cultures from which have produced all the symptoms of distemper. He deduces the following conclusions; 1. In distemper there is found in the lungs and the central nervous system a bacillus whose dimensions vary from 1.25 to 2.5 m. in length and 31 m. in diameter. 2. This microbe gives characteristic cultures in gelatin at  $18$  to  $20^{\circ}$  C. 3. The inoculation of these cultures into the veins, under the skin and into the lungs of aged dogs does not reproduce the symptoms of distemper. 4. The inoculation of a culture obtained from the brain under the skin of a dog five to six months old has reproduced the disease with its characteristic pulmonary and cerebro-spinal symptoms. It would seem from a review of all these experiments that more than one organism is concerned in the production of this disease, with all its train of complex symptoms. Distemper usually appears at an early period in the dog's life; in most cases at the time of dentition. It may appear, however, at any age, the extreme limit which we have observed being twelve years. The younger the dog the more fatal the disease is supposed to be, but an exception must be made in the case of extremely young dogs, as we have observed in the case of sucking puppies that have contracted the disease from the mother, that they almost invariably have it in a mild form and free from complications. The contagion is extremely volatile and may be communicated by direct contact of the animals with each other, by fromities, by an attendant, or by the air. Semmer relates a remarkable case where the disease was conveyed to two puppies from the carcass of an animal which had been left in the cold for fourteen days prior to an examination. The period of incubation is from three to five days, shorter in sum-

mer than in winter. In cases free from complications this is followed by a slight fever, dullness and loss of appetite, which lasts for about four days, the temperature rarely rising above  $103^{\circ}$  F. At the end of this time the eruption comes out, usually upon the soft parts of the skin and in most cases only in the inguinal region. This eruption may pass through the various stages of erythema, vesicle, pustule and ulcer, although it is frequently seen simply as an erythema and sometimes only in the form of a vesicle. The eruption does not penetrate the deeper layers of the skin, as we see in variola in the horse and sheep, but is entirely superficial. When the eruption comes out the fever drops, the appetite returns and the vesicles scale off in about two days. Then comes a secondary eruption, which scales off in two days and disappears. There is then a period of convalescence, which lasts for about six days, so that the whole attack, if uncomplicated, will last about eighteen days. In highly-bred dogs the first fever may be very high and we may have death occurring due to repercussion, the eruption appearing internally as an intense congestion on the respiratory tract or on the intestinal tract, causing fatal gastro-enteritis. Death may also occur from irritation produced by the pustules. One attack usually conveys immunity, although some dogs will contract the disease a second time, and we have observed one case in which a dog had three separate attacks during a period of four months. The complications may be divided approximately into three classes : 1, respiratory ; 2, intestinal ; 3, cerebro-spinal.

Respiratory troubles are usually ushered in by a coryza, which may disappear in a few days, but in most cases it is followed by congestion of the lungs and broncho-pneumonia, which is indicated by an increase of fever, alternating with chills, respirations greatly accelerated, and in severe cases flapping of the lips during expiration. On auscultation mucous and sibilant râles can be detected. The animal emaciates rapidly and refuses all food. The discharges from the nose and eyes become muco-purulent. When the nasal discharges become mixed with blood it usually indicates the breaking down

of a large portion of the lung tissue and points to a fatal result. The eyes may be affected with a conjunctivitis, which may terminate as such or may be followed by a simple keratitis, which may result in ulcerative keratitis.

The intestinal complications may be enumerated as gastritis, gastro-duodenitis, jaundice and enteritis. Gastritis is indicated by the inability of the stomach to retain food and persistent vomiting of a frothy mucous, which soon becomes mixed with bile. In gastro-duodenitis the matter vomited does not contain bile, but consists of a glairy mucous. Gastro-duodenitis usually ends in enteritis and frequently, from extension of inflammation of the bile ducts, in jaundice. Jaundice is almost invariably a fatal complication.

We have observed that in distemper, enteritis very often assumes a subacute form, so far as the manifestation of pain is concerned, although the organs after death may show the signs of intense inflammation. This is no doubt due to the toxic influence of the poison in the blood. There is observed in enteritis, first an obstinate constipation, followed by a serous diarrhoea, rapidly becoming dark in color and mixed with blood. The discharges have a peculiar fetor, which is very characteristic. Dysentery frequently sets in and in a few days the animal becomes greatly emaciated, foul smelling and a pitiable looking object indeed. The discharges are passed frequently in very small quantities, often accompanied by tenesmus, which is liable to cause prolapsus of the rectum. We have found prolapsus of the rectum under these circumstances not to be amenable to treatment.

Under the head of cerebro-spinal complications may be mentioned meningitis, myelitis and chorea. Meningitis usually manifests itself in the form of epileptic fits, in which we have pivoting of the eyes, frothing at the mouth and champing of the jaws. Animal may throw itself upon its back and utter shrill cries or moans. Meningitis may be exhibited in that rarer form in which the animal walks around continuously in a circle in one direction either to the right or the left and appears to be in a sort of stupor, showing indications of brain pressure. A

series of fits in rapid succession may be considered as indicating a fatal result, while one or two, especially if occurring early in the course of the disease, do not have a grave signification. We may look for fits in finely-bred dogs and those of a highly nervous organization.

Myelitis is indicated by a gradual progressing paraplegia which in most cases is accompanied by anaesthesia of the parts affected. The paralysis usually precedes the fatal result, or if the animal recovers there will be in most cases an imperfect use of the hind limbs.

Chorea is a clonic spasm of the voluntary muscles, and may be general or local. It may come on at the end of the period of eruption or may appear as a sequella some weeks after recovery. The muscular twitching is more marked when the animal is in a state of repose. Associated with it we very often have a high degree of nervous irritability and the animal cries persistently as if in great pain, sometimes even in his sleep. In other cases the animal remains in good spirits and has an excellent appetite. The general form has been described as a paralysis agitans, and is not amenable to treatment. The constant motion wears the animal out; the muscles atrophy; the animal becomes a miserable skeleton and succumbs to exhaustion. Some local forms where one set of muscles only or one side of the body is affected, yield to treatment. In others, while the general health may be restored, the muscular twitching persists during life. In rare cases we will observe nervous phenomena simulating locomotor ataxia in which there is a loss of coöordination in the movement of the limbs, a staggering precipitate gait, the legs starting hither and thither in a very peculiar manner and the feet coming down with a stamp at each step. This condition is due to a diseased area affecting the posterior columns of the spinal cord and the posterior nerve roots. As in the human subject the use of the eyesight is necessary to prevent the animal from falling. We have not noticed, however, strabismus, ptosis or neuralgic pains which are characteristic of this disease in human beings.

A rare complication of distemper is lymph adenitis which we have observed affecting the sub-maxillary lymphatic glands, the glands on the side of the face, and in two cases the thyroid glands, forming abscesses with considerable sloughing of tissue and being very slow to heal. A rare sequella which we have observed and have not seen mentioned before is purpura hemorrhagica, a well marked case occurring in a spaniel puppy four months old, one month after recovery from a mild attack of distemper. The alterations are essentially those of a fever, the muscles being of a pale yellow color with little red ecchymotic spots throughout their substance and the fat turned into little masses of gelatin. The blood is fluid and watery. In enteritis we find ulceration and infiltration of the intestines, especially of Peyer's patches and the solitary glands. In broncho-pneumonia we have congestion of the lungs, bronchi filled with frothy mucous, areas of V-shaped lobular pneumonia and possibly presence of abscesses in lung substance. In chorea and myelitis we have infiltration of round lymphoid cells into the spinal cord, medulla oblongata and cerebellum and granular degeneration of the nerve cells.

The treatment is essentially symptomatic. Many cases require no treatment but good hygienic surroundings and careful feeding. There is no disease where careful nursing is more urgently required. The eyes need frequent cleansing to prevent ulceration. The bowels need to be carefully looked after to prevent enteritis. The animal must be kept from drafts to prevent pneumonia, and if a nervous subject must be treated very gently to avoid fits. While these complications may occur despite the best of care, yet the possibility of preventing them should cause us not to relax our vigilance.

For conjunctivitis we bathe the eyes frequently with hot water and apply a solution of boric acid, ten grains to the ounce. For a simple keratitis we use thrice daily a collyrium containing  $\frac{1}{4}$  grain atropia and two grains sulphate of zinc to the ounce. We have never found it necessary to use a stronger solution than this. When ulceration of the cornea sets in we

use in addition to the collyrium above mentioned, dry oxide of zinc, dusted upon the ulcers, being sure to have the powder free from grit and ground very fine. Our method is first to use the collyrium and then the powder. In some cases we have had good results from the use of honey in addition to the other remedies, applying two drops in the eye morning and evening. When the cornea has ruptured and the aqueous humor run out, granulations frequently spring out from the seat of the ulcer which have been called staphyloma. It is often necessary to remove these with the knife as they are exquisitely tender and cause the animal great pain and discomfort. Shoemaker's wax upon the nose is not to be despised, but we have found better results from fumigations of tar which seem to exercise a decidedly beneficial action upon the disease, especially upon the bronchial complications. Care must be taken, however, not to make the fumes too dense, as in this case they prove too irritating.

We find quinine to be indispensable in the treatment of distemper. In pneumonia we combine it with muriate of ammonia, giving from one to three grains of each in capsules, according to the size of the dog, three to four times daily. We also employ it in the intestinal complications combined with subnitrate of bismuth. We have had good results in pneumonia, especially in cold weather, from the use of a jacket stuffed with cotton-batting sewed around the chest and neck, placed on early in the attack, and left on until some time after convalescence. In bad cases of pneumonia we have used  $\frac{1}{2}$  to  $\frac{1}{8}$  of a grain of strychnia as a respiratory stimulant with good results. We also give milk punches frequently in small amounts, alternating with beef tea when the animal grows tired of them. In gastritis and in mild forms of diarrhoea we have found salol and subnitrate of bismuth to be a good combination. In cases of persistent vomiting we give half-drop doses of carbolic acid and iodine every hour and small doses of egg albumen given frequently alternated with milk and lime water. In bad cases of diarrhoea, when the discharges are tinged with blood, and in dysentery,

we employ a combination of opium, one grain, sulpho-carbolate of zinc, one grain, and bismuth subnitrate, five grains. Also enema of starch water. We have found the best diet in dysentery to be raw meat or meat slightly broiled in butter, cut up finely and given in small quantities. This is completely digested in the stomach before it reaches the inflamed bowel. We do not use purgatives, but employ olive oil for its laxative, emollient and nutritive qualities.

For epileptic fits we employ the hot bath and give mixed doses of potassium bromide and chloral, five grains of each, repeating every three hours and increasing the dose if necessary. Where it is necessary to use this remedy for some time we substitute bromide of sodium for the potassium salt, as it can be given in larger doses and is better tolerated by the stomach. In those cases of locomotor ataxia and those in which the animal travels around in a circle we have never had any good results from treatment. It would seem in the latter case that trephining is indicated if the proper spot could be found. In chorea we have tried every remedy proposed thus far and must say that the only good results we have ever obtained have been by the employment of arsenic. We have not obtained the results which M. Monfallet gets by the use of quinine. It may be, however, that the cases which he cured did not have chorea as a result of distemper.

It is our opinion and that of a number of physicians with whom we have conversed that chorea following distemper in the dog is of a much more intractable kind than that seen in children. We believe it to result largely from the anaemic condition of the blood, and the granular degeneration of the nerve cells in this disease indicates that it is a very serious lesion indeed. In arsenic we have the valuable properties of a blood tonic and a special stimulant to the nervous system. We begin with two drops of Fowler's solution thrice daily, increasing one drop every third day and pushing it up almost to the verge of poisoning, stopping altogether when the animal begins to vomit, and after two days commencing again with the smallest dose.

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In some dogs we find an idiosyncrasy against the use of Fowler's solution due to the lavender in its composition, and in these cases we employ the liquor acidum arseniosum, the dose being the same. With this treatment we have cured a fair proportion of cases, but, alas, far too few. The great trouble in the treatment of chorea is in the length of time it takes to effect a cure, the owner usually becoming disheartened at the slow rate of improvement and ordering the animal destroyed. Many cases will take from three to six months to effect a cure. In others the twitchings may persist for a year and then disappear. We are anxiously looking for the discovery of an anti-toxin which shall be both preventive and curative, and be a much more powerful weapon than any we are able to employ at present in combating this disease.

## NEW YORK STATE VETERINARY COLLEGE.

INAUGURATION ADDRESS BY PROFESSOR JAMES LAW, SEPT. 24, 1896.

It seems desirable to say a few words to you collectively in view of the inauguration of a new enterprise in America—a State Veterinary College. As an English-speaking people we have been especially influenced by English example in shaping many of our institutions, and in none more so than in those to which veterinary education has been committed. It has been a crowning glory of the Anglo-Saxon race that they have suspected and frowned upon a too paternal government. In Europe and America, in South Africa, Australia and New Zealand, a prominent aim has been to restrict the functions of government to the protection of the citizen in his personal rights of property and conscience, in his lawful business enterprises, and his pursuit of pleasure. Education, it is true, came in for a constantly increasing share of national control and support, but this was for long mainly along classic lines, and was a legacy which came down to us from the early monastic and ecclesiastical schools. For purely secular education, money was slowly and grudgingly allowed, with a wholesome dread of the evils to be apprehended from class legislation. That instinct of evenhanded justice which demanded for the citizen a trial by a jury of his peers, naturally recoiled from any proposition which looked like an appropriation of public money for the creation or benefit of any special class or guild. It is only in recent years that the manifest value to the nation, in its competition with other nations, of the highest knowledge and skill in science and arts, has led to the founding and support of technical and professional schools of all kinds, to keep the country in the forefront of the race of civilization and progress.

As the Anglo-Saxon peoples have gradually awakened to the need of government provision for technical education, those branches which seemed to be of the greatest material value were naturally the first and most liberally dealt with, while those in which the prizes were smaller, or the triumphs less striking, and competition less close, were still left to shift for themselves.

In Great Britain there has never been a State Veterinary College, and the four existing schools have been all founded by private enterprise and conducted independently of state grants.

In America, as in England, the veterinary schools have been private ventures, and

consequently largely dominated by the financial results. The founders of such schools were met at the threshold by the imperative questions :

Will the venture pay?

Can we secure fees enough to sustain it?

Will the name of the college bring us greater and more remunerative practice?

Will the prospective fees, fame and practice warrant the investment?

The answer is necessarily dominated by the question of money and the temptation is great to subordinate the educational considerations. The pressure is heavy:

1st. To shorten the curriculum.

2d. To admit ill-prepared candidates.

3d. To graduate large numbers irrespective of fitness.

4th. To further abridge the already short course (and as a final degradation),

5th. To sell diplomas.

To this last, lowest depth of sordidness *more than one* veterinary college in America has sunk. But short of this, even the surviving and honorable colleges have been one and all prevented from achieving the status which the nature of the subject demanded. The preliminary education and the trained mind which are necessary to the successful pursuit of the science, have not been required for matriculation, and the course has been abridged to such an extent that even a trained mind cannot successfully cover the required ground in the time allowed him.

Meanwhile the field of veterinary science has been rapidly enlarging—deepening, widening and becoming more thoroughly cultivated, so that the insufficiency of the untrained student and his short curriculum have become more and more marked year by year.

The contrast with the schools of veterinary medicine on the continent of Europe will emphasize this statement. In entering a continental veterinary school the student must show that he has graduated from a *real skule*, gymnasium or college, and he must pursue a veterinary course of three years and a half to five years of nine months each, ere he can hope to secure a degree. Add to this that the great advances in medicine have been such that the great majority of the students have to study one additional year ere they can secure the coveted diploma, and we can appreciate the hopeless inadequacy of a course of two or even three sessions of five or six months each, which has not been preceded by a mental training in high school or college.

These continental veterinary colleges would have been no more thorough than the English or American had they been dependent on private enterprise. But there is no veterinary college on the continent of Europe to-day that is not a ward of the government. Each one has been founded and is sustained by the commonwealth just as are the army, the navy, the experiment farms, etc. This paternalism is founded on a long experience of their value, of which I may be permitted to give a single example.

The disease rinderpest, which confines its ravages to ruminants, and, as its name indicates, almost exclusively to cattle, formerly spread over most of Europe at frequent intervals, killing 20 to 95% of the bovine race at a single invasion. Paulet tells us that in three years (1711-14) it cut off 1,500,000 head of cattle, and Faust says that in the whole of Europe in four general invasions dating from 1711, it destroyed no less than 200,000,000 head. At \$20 per head this reaches the astounding sum of \$4,000,000,000. So late as 1844, according to Reynal, it destroyed 1,000,000 in southern Russia alone.

Thanks to the veterinary profession of Europe, this disease can never again attain such boundless sway, and though still extended at intervals in the course of belligerent armies, or in the channels of trade, it is always met with intelligent measures of control and speedily suppressed.

This is but one of the deadly plagues of the Old World, the ruinous extensions of which led, in 1762, to the establishing of the first European veterinary school, at Lyons, France, under the presidency of Bourgelat. This was followed, a year later, by a second school, at Charenton, near Paris, and still later by a third at Toulouse. These were succeeded by a score of others in the different countries of the continent, all at the national charge and under government control. They are justly looked upon as economic investments, not only for the restriction and extinction of the plagues formerly so rife and fatal, but also for the conserving of the lives and efficiency of the horses of the cavalry and artillery, for the protection and fostering of the various animal industries, and indirectly, though no less certainly, for the permanent preservation of the fertility of the soil.

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The results have abundantly vindicated the wisdom of the investment. The protected herds have furnished a cheap and abundant food for the growing populations; the increasing demand for cattle food and the multiplying of the natural sources of rich manure, have combined to enrich the fields and improve the crops; the improved agriculture and abundance of food products have fostered every branch of manufacture and trade, and contributed to a substantial prosperity.

The contrast in countries where veterinary science has been ignored is quite instructive. In South Africa, apart from the mining interests, grazing has long been the main source of wealth. Into this country lung plague was imported in infected Dutch cattle in 1854 and extending on the unfenced grazing tracts, under a semi-tropical climate, proved so disastrous that, according to Lindley, whole herds of one or two hundred head would perish without a single exception. At that time the Matabele chief, occupying land protected on two sides by inaccessible cliffs, successfully defended his passes against the diseased cattle and saved the wealth of his people.

Now recently a cargo from infected Hindostan has implanted the still more redoubtable rinderpest in South Africa, and in the disturbed condition of the country this has penetrated even into Matabeleland, and bids fair to destroy the cattle industry of South Africa.

Again the lung plague, imported into Australia in 1859, in a diseased English cow, was allowed to spread over the whole island continent, and permanently blighted the cattle industry of one of the finest pasture lands on earth.

In England this same lung plague in the forty years succeeding 1842 cost the nation \$500,000,000.

In the United States the same plague prevailed in our eastern seaboard States for over forty years, causing losses that have never been estimated, and incidentally leading to an embargo on American cattle in England which entailed a loss of \$10 a head on an average to the exporter. This alone amounted to \$2,000,000 per annum. It was only when the plague reached the centre of our cattle traffic (Chicago) and bade fair to invade the whole country—including the unfenced territories—and to repeat in America the experience of South Africa and Australia, that the national and State Governments were roused from their lethargy, and we were empowered to take efficient measures for its extinction. Happily now it has no place on this Continent, and with reasonable precautions can never make a new invasion.

The same line of thought and similar historic facts, could be followed and adduced as to the other animal plagues, including the afflictions caused by the larger animal parasites, as to enzootic diseases caused by faulty conditions of the environment, as to constitutional diseases due to errors in breeding, diet and regimen, and as to local diseases many of which are due to improper treatment.

In America, as in Europe, we can successfully maintain that the benefits already drawn from the veterinary profession have abundantly vindicated its claim to State support. But the prospective value of the work of veterinary investigation and education far exceeds all that they have accomplished for the nation in the past. Among our horses glanders yearly claims a large and valuable sacrifice to its devouring poison. Among cattle, anthrax, tuberculosis and Southern cattle fever cause widespread, though needless destruction. Our sheep flocks are decimated everywhere by remorseless parasites, internal and external. Among swine the preventible infectious fevers cost the nation on a low estimate \$20,000,000 per annum. Among fowls the prevalent contagious affections are no less disastrous.

In the matter of numbers the wealth at stake in the live stock of America is as great as that of European nations, and to the reasoning mind is no less exacting of measures for its protection. In four of the most important countries of western Europe the aggregate of the farm mammals is considerably less than that of the United States. Yet these four countries of western Europe (France, Belgium, Holland and Germany) have eleven veterinary schools, maintained and fostered at state expense. Surely our own Empire State with its 9,500,000 of farm mammals, with its large emporia at Buffalo, Albany and New York for the reception and diffusion of live stock from other States and its record of a recent riddance from a cattle plague which for over forty years had hung like a pall on the cattle industry of the State, and exacted a tax of \$2,000,000 or more per annum from home herds and exports, is fully justified in establishing a State Veterinary College.

But if the mere economic advantage would demand such a step, how much more would the protection of human health and life! How much of the physical disease and death of man is due to direct transmission from corresponding diseases in our domestic animals, is only now beginning to be realized.

Among parasites some of the most deadly of man's tormentors come directly from our live stock. *Trichina*, *echinococcus*, the beef and pork tapeworms, *strongylus gigas*, and *actinomycosis* may be mentioned in this connection.

Among microbial diseases the list is no less redoubtable. *Glanders*, *farcy*, *rabies*, *tetanus*, *milk sickness*, *tuberculosis*, *anthrax*, *malignant œdema*, *septicæmia*, *erysipelas*, *gangrene* and *infectious ostitis* may be adduced as examples.

The more intimately we acquaint ourselves with the subject of communicable or contagious disease the more deeply are we impressed with the fact that there is the closest relationship and interdependence between these affections as they appear in man and animals. Indeed, in many cases, as in the *echinococcus*, the beef and pork tapeworms, and even the *trichina*, the successive appearance of man and animal as the host of the parasite, at the different stages of its development, is a condition of its propagation. So far as we know it is impossible for the *echinococcus* or the beef *taenia* to live in the same host, or in a host of the same genus in both its larva and mature condition. Man harbors the larva and the dog the *taenia*, or the calf entertains the larva and his master the *taenia*.

In the case of contagious affections due to microbes, the same alternation from man to beast and from beast to man, is not so essential to their maintenance, and yet the intimacy of the relation between the domesticated animal and the civilized man is so close that many such diseases are largely propagated in this way. In this sense, *glanders* and *anthrax* stand out as largely industrial diseases. The first appears in persons having close relations to horses and horse products—grooms, coachmen, stablemen, cowboys, soldiers, farmers, horse-dealers, knackers, veterinarians, surgeons, tanners, gardeners,—whose daily avocations lay them especially open to direct infection. The second is a disease of farmers, cattlemen, shepherds, butchers, tanners, hair and wool workers.

But neither disease is by any means restricted to these classes. These suffer more numerously, but others suffer in a limited degree, through direct channels of contagion. And the danger of such irregular transmission is in exact ratio with the number of diseased animals that are allowed to survive in a district. A single glandered animal is a source of no great danger. He may be even used on public highways, but his contact with or proximity to man is necessarily somewhat restricted and the human risk is correspondingly small. But let him have free scope to infect others, and these to infect others in turn, until one can hardly enter a street without meeting an infected animal and having him snort his deadly nasal discharge on one's person and into one's nose, eyes and lips, and the danger at once becomes imminent. Let *glanders* be neglected in a street car stable until its victims are counted by the score, or on a horse-ranch until the diseased mount up into the hundreds, and the dangers first to the caretakers, and second to the general public, is greatly enhanced, and human victims of this most loathsome and deadly disease become comparatively common. Let a grocer, baker, milkman, or other vendor of human food, keep a glandered horse and use it in his delivery wagon, and the hands of the driver, alternately coming in contact with the virulent discharges and the articles of food, threaten to become a very direct cause of infection to his unsuspecting customers.

A single *anthrax* animal would also be primarily a source of apparently little danger, but when that diseased subject is allowed to contaminate other animals and even susceptible soil, which can retain and propagate the bacillus, the danger to both man and beast is enormously increased. Brought up from the graves, by the rising of the soil water in wet seasons, or by the intervention of the earthworm or the burrowing rodent, then dried up and blown by the winds upon the vegetation; drawn up from wells in the drinking water; borne along by streams and rivers to new localities; carried on the feet and even in the stomachs of vermin, birds and insects, and implanted in the skin by their mandibles and biting apparatus, the bacillus finds many channels of conveyance and numerous modes of infection. Delivered from the butcher's stall into our kitchens, the meat of an *anthrax* animal is liable to contaminate other food, through knives, forks, plates and other articles, and even to cause direct infection through the resistance of the spore to the heat of cooking.

Of late years the general public has been more exercised over tuberculosis than any

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other complaint which is common to man and beast. There is doubtless good reasons for this. This *white plague of the north*, by far the most deadly affection of man, killing one-eighth of civilized humanity, and attacking one-fourth or even one-third at some period of their lives, is also the most prevalent chronic disease of our dairy herds, and its extension in the human race bears a remarkable ratio to the utilization of the bovine races for dairy products and beef. Piscivorous tribes like the western islander of Scotland are usually remarkably free from tuberculosis, as are also the native Chinese, who are vegetarians. The ruling Tartar race in China, on the other hand, are beef eaters and largely tuberculous. In Egypt and Algiers in the comparative absence of bovine herds, the great influx of consumptives has not materially deteriorated the health of the native population, while in Italy, Australia, Hawaii and Madeira, where the population freely consume the products of the bovine race, the rush of phthisical health-seekers has led to a great extension of tuberculosis among the natives. Among tribes of our own Indians, who feed upon the raw flesh of the ox, too often diseased, 50 per cent. of the total mortality is from tuberculosis.

Concurrent testimony, obtained on so large a scale, and from such widely different sources, is not to be lightly set aside. Tuberculosis is mostly a chronic disease, frequently lasting through a long lifetime. A certain number of cases recover, many more remain dormant, ready to burst into renewed activity whenever the health is otherwise undermined. It is essentially a "pestilence that walketh in darkness," and often under an outward guise of health, the subject of the disease carries around the germs of certain death to his unsuspecting and more susceptible fellow. The very latency of the disease in certain systems, and the absence of all prominent outward manifestation of illness, is a potent factor in the propagation of the infection. A disease that is quickly fatal, like smallpox, plague, yellow fever, or cholera in man, or anthrax, rinderpest, or Texas fever in cattle is easily dealt with, since wherever the germ exists in connection with susceptible subjects, its presence will be speedily manifested, and it can easily be circumscribed and crushed out. These make their attack in broad daylight as with great sound of trumpet and roll of drum, and we are warned to fortify every post and strengthen every defense. But the stealthy tubercle bacillus, which glides up in the darkness and silence, and, as it were, saps our walls of defense without visible manifestation or audible sound, and suddenly appears, when least expected, in the interior of our most trusted keep, is by far the most dangerous enemy.

To neglect our defense because of this subtlety is to abandon our cause and play the poltroon. This is not the part of modern science; this is not the course of the medicine of to-day and of the future.

To the biologist who has studied the infinitesimal forms of parasitic life, the subtlety of the germ is but a challenge to meet its inroads by a more effective strategy, to meet its hidden mines by equally able countermines, and to turn an otherwise assured defeat into an accomplished victory. But in doing this he can never safely abandon the first principles of warfare. He can never neglect a favorable opportunity to reduce the numbers of the enemy, nor to prevent him from securing reinforcements. Yet this is just the course that is strongly urged in regard to tuberculosis.

Because some recover, and because other cases remain long latent, we are urged to let such cases go on in their work of indefinitely multiplying the disease germ, and to attack them only when they become acute and deadly. Acute cases don't live long to propagate the disease. Whence then comes the constant succession of cases? Mainly from the latent and recovering ones. Our own University herd is a standing example of a sound prevention of this infection. Formerly affected with tuberculosis, it has now for a number of years been entirely free from the affection, in spite of many risks, from visitors and otherwise, and in spite even of the presence in the barn for several months of a latent and unsuspected case, which had been brought from another herd. Had we left that dormant case in the herd after its discovery, it would in all probability have sooner or later developed into active disease, and become the source of a new general extension of tuberculosis in the herd. It is impossible in a short lecture to lay down infallible and iron rules for dealing with this, or any similar disease, under all possible circumstances. Special conditions may warrant special measures. In the case of valuable animals where economic considerations would warrant the supervision, separate herds of dormant cases may be allowed for breeding purposes, if they can be kept carefully apart from all other stock, their milk products denied to man or animals, and all acute cases weeded out from the herd

as soon as they can be detected. Above all, if such breeding herd of dormant cases can be subjected to a continuous out-of door life on the open prairie, where the chances for recovery are highest, and the risks of contagion lowest, they may be made profitable by fattening their healthy progeny for beef, or still more so, by perpetuation of a valuable strain of blood. Under such professional supervision, and frequent testing, the actually recovered animals could in due time be removed from their still questionable companions and restored to a guaranteed herd. But the one who would argue from this that the actual, though somewhat latent and dormant cases should be left in the herd that has been tested, and proved to be above suspicion, is but pleading for a field for the propagation of the contagion. The acute cases that would develop at intervals would entail new victims, no longer among the latent cases and suspected animals only, but among the tested and sound as well.

Under average conditions, with low priced cattle and a state indemnity, the slaughter of all the tuberculous would be the course of economical and successful sanitary work, and when special conditions rendered another and less radical resort permissible, it should only be adopted when, hedged about by such precautions as would obviate danger to man and beast. We know enough about the dreaded tuberculosis, to say that we can deal with it successfully under the most varied conditions, but our past achievement does not imply that we have as yet reached the limit of possible success in this disease; and a similar success for a whole state or nation would not warrant us in saying that no better measures can be taken. Such a conclusion would be utterly unscientific and unduly conservative. It is the best at present known to us.

But in these days, when knowledge advances by leaps and bounds, no one can say what to-morrow may have in store for us. Some as yet unknown Edison or Tesla may be even now preparing a surprise in the revelation and utilization of natural forces, of which we little dream, and which may cast into the shade our steam engines, our electric telegraphs, telephones, phonographs and skiographs. So in the field of biology and modern medicine, the largest hopes and the brightest ideals are likely to prove the most scientific. The vivid imagination and the scientific foresight must unite to help in our future progress. Not in the case of tuberculosis alone, but in connection with the entire field of medicine, a whole phalanx of possibilities, big with promise for the future of humanity, comfort us. As biologists we see genera, species and even varieties of animals that are largely insusceptible to this and that deadly disease. It is for us to grasp the cause of this immunity, and if possible to render it available over a wider area.

As bacteriologists we recognize incompatibilities and antagonisms between the living cells of the animal body and their products on the one hand, and the pathogenic microbe and its products on the other. How far can we avail of these to strike a balance favorable for and protective to the animal. We are as yet on the mere confines of this great science of bacteriology. In the vast microscopic world, full of attractions and repulsions, of living cells and microbes, of neutralizations and physiological antagonisms, of leucomaines, pto-mains, toxins, and enzymes, of sozins and phylavins, there are many and bright promises for the future of preventive and therapeutic medicine. But it is only the trained mind, rich with the knowledge already attained in this science, that can hope to achieve the triumphs of the future. Knowledge, skill, imagination, sound judgment, and indefatigable industry must combine in the man who would hope for success in this field. It is no place for the dull or the laggard. Without undue arrogance it may be asserted that to us has been allotted a large measure of responsibility in relation to this work. By the generosity of the Empire State we are enabled to enter on the field. We have been furnished with the nucleus of a scientific institution from which large and important results may fairly be expected. We are honored as being, in a sense, the *pioneers in a comparatively new field*, we have the place of advanced guard in the inevitable warfare. Though small in numbers our chosen battle-field is one in which numbers count for less than quality, and in respect to quality we have to prove ourselves. Let us take as our primary thought the Socratic aphorism, "knowledge is virtue, ignorance is crime." In this case this is preëminently—I may say painfully—true. As the beneficiaries of the State we shall prove unthankful and unworthy if we fail to make the best use possible of its bounty. As trusted representatives of science, it is expected of us that we fortify ourselves with the lore of the past, and strike out with clear vision, steady foot, and strong hand for future achievement.

To rest satisfied with any knowledge short of the best of to-day is to neglect our opportunity and prove untrue to our trust. The lore of the past can never be safely set aside, nor entirely ignored, yet this has led up to so much that is more recent, clearer, more definite, and full of so much greater potencies, that with Socrates we may say it is criminal to neglect even its smallest lessons. The accumulated knowledge of the ages is great and indispensable, but is small indeed unless we build upon it the riper fruits of its own modern development. This is true for teacher and student alike, for are we not all students in one common school. Some of us may have advanced to a higher grade, while some are but entering the lowest class, but success will crown each only as he devotes his best energies to his work in the spirit of truth and with the ardor of the enthusiast. In this as in all else we must approve ourselves as men. The veterinary profession has long suffered from the low appreciation in which it has been held. Every one who has conceived an attachment to animals has thought himself competent to deal with their diseases. Our State is crowded with men who without further preparation or fitness have been legally established as veterinarians by a simple registration of their names as such. To the future graduate it is given to redeem the profession from this low public estimate. He must everywhere approve himself first as a man of character, a good man and a good citizen. Next, he must approve himself as a man of science. His judgment and his word must be authoritative on all matters that involve his profession and the great interests connected with animal industry. He must be an educator in the highest sense. Wherever his lot may be cast, with whatever class of domestic animals he may be called upon to deal, he must charge himself with the task of bringing to the work the accumulated knowledge of the centuries and especially of the wonderful century which is drawing to its close.

Some of you may be called upon to engage in the extinction of animal plagues. In this, spotless integrity must be joined to the highest knowledge and skill, and conjoined to a deep insight into human nature and an inflexible purpose of applying even-handed justice, if you would escape the danger of being overwhelmed in the storm of detraction and misrepresentation that will inevitably assail you. The honorable prize to be won is a great one, but it requires a good soldier and a sterling man to bear the brunt. When the complete triumph comes, you will find that your whilom detractors, who have opposed you in perfect good faith, will come forward to acknowledge their error and endorse your achievement.

Some will be called to inspect markets and food products, and here with the weighty responsibility of a city's health on your shoulders, you will bless the day that brought you through the rigorous studies of anatomy, physiology, histology, pathology, toxicology, and enabled you with scientific certainty to endorse the wholesome and condemn the diseased and unwholesome.

Some I trust will be called to fill chairs of comparative pathology and comparative medicine now for the first time being established in the most forward medical schools, and which must soon be provided in all such schools that are worthy of the name. None can fill such a place so well as the man who has profoundly studied the special diseases of animals, and indeed none others are fitted to do justice to such a chair. Ever since Hippocrates, the most advanced physicians have recognized and employed the lower animals as a means of advancing medical knowledge. Our knowledge of physiology consists largely in deduction from experiments made on the lower animals; our acquaintance with the physiological action of drugs and poisons, very largely consists in accurate observations made on the lower animals; pathology, surgery and medicine owe much—very much—to the same source; and bacteriology is essentially based on experimentation on the beast—comparative medicine, therefore, can be best pursued by the veterinarian, who, otherwise equally well furnished with the medical candidate, adds to his accomplishments, a thorough practical knowledge of all animal diseases. This will quicken his insight into pathogenic causes, and the significance of morbid phenomena will protect him against hasty, erroneous conclusions, and will make his work at once more productive and more reliable.

Others will be called to undertake investigations in our agricultural experiment stations, where the same wide and accurate knowledge, the same keen insight and skill, and the same scientific methods, can alone bring out valuable results.

For all such future fields of usefulness, you must now make ample and thorough preparation. Patient labor, earnest and systematic effort, daily accomplishing of the day's problems in a thorough manner will make the work easy, and assure success.

In entering this institution you begin in a very special sense your work of life. Outside of the professional school the work of preparation has been essentially general and introductory. In the professional college you start upon what you have especially chosen as your life's work. We who are somewhat older in the field are appointed to advise and guide you in the preliminary stages. It is our purpose and hope to do our whole duty by you, in the right spirit. We bespeak your earnest effort to do your whole duty by the subject in hand, so that the foundations, at the laying of which we mutually labor, may grow up into a grand, noble and worthy development—an honor to our alma mater and to our benefactor, the State of New York.

## REPORTS OF CASES.

### LIME INHALATIONS IN THE TREATMENT OF PSEUDO-MEMBRANOUS CROUP.

By DRs. PIERCE and ARCHIBALD, Oakland, Cal.

On Sept. 4th, 1896, we were called to see a thoroughbred two-year-old colt that was suffering and had suffered the previous night from spasmodic colic. The colt was out in a small paddock all night. The owner informed us that the colt had broken out in sweats at different times during the night, which was cool and foggy. The usual remedies for such cases were prescribed, with the result that in a few hours the colt was relieved. At this time the owner consulted us regarding an enlargement on the colt's knee, the result of falling on a slippery street. We advised him to send the colt to our hospital, which was done on the following day.

Between Sept. 5th and 9th, we noticed that the colt coughed occasionally, but we paid very little attention to it, believing he had caught a slight cold on the night of Sept. 3d.

On the morning of the 9th, the colt refused to eat, and upon examination we found the following conditions: Visible mucous membranes injected, temperature  $106.2^{\circ}$  Fah., throat very painful on manipulation. Diagnosed laryngitis. Prescribed acetanilid, quinine and spts. vini recti., potassii chl. in drinking water and ammoniacal liniment to the throat.

On Sept. 10th, little or no change was noticed with the exception that the respirations became suspicious and rattling. The vibration or bruit in the throat was very pronounced, temperature varied from  $105.0$  to  $106.3^{\circ}$ . Ammoniacal liniment was again applied to the throat, and digitalis and belladonna were prescribed to be given alternately with the acetanilid and quinine; this was done to correct the heart's action, which was becoming affected by the continued use of the acetanilid.

On the night of the 10th the symptoms became greatly ag-

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gravated, the dyspnoea became alarming, so much so that a tracheotomy tube was prepared for insertion at any moment, saliva dribbled from the mouth continuously, the throat was so painful that pressure of the hand produced a dyspnoic attack, respiration could be heard a block away. Inhalations of benzoin were administered during the night at regular intervals.

On Sept. 11th, there was no change for the better, temperature remained elevated, respiration about the same, eyes prominent, visible mucous membranes dark red, colt would stand with front legs apart and head extended on the shoulders. Diagnosed pseudo-membranous croup with oedema of the subjacent connective tissue. Owner objected to the operation of tracheotomy only as a last resort. The throat was washed and Churchill's tincture of iodine was applied. The use of acetanilid, quinine and digitalis was discontinued and the treatment was confined to diffusible stimulants, pot. chl. in drinking water and inhalations.

Knowing that the medical fraternity have had wonderful results from the use of lime inhalations in croupous troubles, it was decided to try them on this case. We placed the colt in a box stall, so arranged that it could be made practically air-tight, and in this stall we placed a soak tub, in which we slacked about a bucket full of common lime four or five times daily, having a man hold the colt's head over the lime while it was slackening. From this on the colt began to improve slightly. After two or three inhalations he began to discharge a little from the nostrils. This treatment was continued for six days, when respiration had improved to such an extent that the colt could breathe without much difficulty. About this time all medicinal treatment was discontinued with the exception of sodii hyposulph. in drinking water. A tonic was prescribed, but, owing to the irritable condition of the stomach, it was discontinued. Temperature still varied from 104 to 105.2°. The stertorous breathing did not entirely disappear until Sept. 20th, but even at this time a prognosis could not be arrived at, as the colt was so weak that it was impossible for him to walk a hundred yards. Two abscesses formed in the sub-maxillary region, which were lanced on Sept. 25th. All this time the colt was discharging from the nostrils an enormous quantity of pus and membranous cylinders, which were peculiar in the fact that they possessed little or no offensive odor, as is usually present in these cases. The absence of any offensive odor in this case we believe was due to the aseptic and deodorant properties of the lime inhalations. Convalescence

was remarkably slow, so slow that it was not until Oct. 10th that the colt was pronounced out of danger and sent home.

Our conclusions are, first, that under ordinary treatment the colt would have succumbed to the disease, and, second, that lime inhalations are in our estimation clearly indicated in laryngeal cases, more especially those of a croupous nature.

#### SOME INTERESTING CASES FROM THE AMERICAN VETERINARY COLLEGE HOSPITAL.

By Members of the Staff.

**TUBERCULOSIS IN A LION.**—The subject was a male lion, about ten months old, belonging to the Barnum and Bailey Circus, kept at the menagerie in Central Park, New York City. We were called to see him about four weeks ago, and found him in a very emaciated condition, smaller than his associate, but of the same age, and there was observed at this time a considerable enlargement of the thyroid gland of the left side. The animal not being secured it was impossible to make a thorough examination, but suspecting tuberculosis on account of the previous deaths of two other lions belonging to the same collection during the summer from that cause, the animal was put under treatment with that in view. But under the hope that it might be of a scrofulous nature he was placed under the iodide of potassium for the reduction of the enlarged thyroid until a more thorough examination could be made. Upon making a second visit two weeks later we found the patient in a recumbent position, breathing very hard and fast. He could scarcely stand when gotten to his feet, so weak had he become. The thyroid had diminished considerably, though still larger than normal, and the right gland had begun to enlarge. After securing the animal with ropes, and making a more thorough examination, the diagnosis of tuberculosis was made. He died two weeks afterward, and the carcass was brought to the college for an autopsy. On section of the thyroid glands they were both found to be diseased; the lungs were masses of miliary tubercles, and the bronchial glands enlarged. About the ninth rib on each side were found calcareous deposits the size of a hickory nut, and they are now in the hands of a bacteriologist to determine if they are of microbial origin. On entering the abdominal cavity the liver was found to be diseased, but only to a small extent, having a few tubercles on its surface, the gall-bladder rather large, but the mesentery was completely studded with tubercles of various sizes.

PAPILLOMA OF THE MOUTH.—On Saturday morning, October 3d, there was brought to the hospital for treatment a female cocker spaniel dog, suffering with the above named disease. Unluckily the history was somewhat incomplete. The owner had bought the dog some two months before, the patient having the disease at that time, but not so extensively as now. He at once took her to a veterinary surgeon, who ligated one of the larger tumors, which readily sloughed away only to reappear again. Upon examination we found the mucous membrane of the lips, cheeks and tongue almost completely covered with the growths, in different stages of maturity, some as large as a bean, others quite small. To give some idea of the number, I counted twenty-six on the superior face of the tongue, and they were much more numerous on the border of that organ, also on the borders of the lips. The larger ones were in a state of degeneration, as they could easily be pulled away with the forceps, but the smaller were, as a rule, more compact and firmly set in the membrane. As the diseased portion was so extensive the owner was advised to have the patient destroyed, and thus end the little fellow's suffering. This he readily consented to, and left him at the hospital for that purpose. He was kept till the hour of the afternoon clinic for the students' benefit, after which he was destroyed by chloroform.

TRAUMATIC SYNOVITIS SIMULATING FRACTURE.—An aged chestnut gelding was brought to the A. V. C. clinic on Sept. 26th, with the following history: He had fallen down, while at work, on the off side, about four days previously, and when he got up was very lame on the near hind leg and growing gradually worse, until he would not put his foot to the ground. After a thorough examination had been made a diagnosis of fracture was given, owing to the fact that a crepitant sound could be heard at times upon flexing, extending and rotating the leg, but it was only slight; rectal exploration proving nil. Treatment was advised, and he was left in the hospital. A blister was applied and the animal placed in slings, but he was so restless in them that they were taken away and his head tied up short. There being no improvement in his condition after five days he was destroyed. On post-mortem no signs of a fracture could be found, but an extensive infiltration into the cellular tissue around the stifle joint. When the articulation was opened a great quantity of coagulated synovia poured out.

## PROTRACTED GESTATION.

By ROBERT W. ELLIS, D.V.S., New York City.

"Hannah Panis," the property of Bingham Brothers, of Westchester County, N. Y., was "bred" to a standard horse on June 3d and 4th, 1895, and became pregnant at that time; the owner having positive knowledge that copulation was never repeated after those dates, although parturition did not follow until September 1st, 1896, after a period of four hundred and fifty-five days, or four days less than fourteen months, when a splendidly formed male colt was delivered, seeming quite happy to be released from his bondage, where he had served seventy-five days over his time of sentence, or two and one-half months.

If some of the practitioners from the breeding districts who have opportunities of making observations daily in this line are able to cite some cases that have departed so far from the normal period of gestation, or anything approaching this case, I shall feel gratified if they will do so, through the columns of the REVIEW, as to me it is very unusual.

## EXTRACTS FROM EXCHANGES.

## ENGLISH REVIEW.

**STRONGYLUS TETRACANTHUS.**—In the *Veterinary Record* Mr. W. Pauer, M.R.C.V.S., records a case where, by the history of previous death by tuberculosis in her mate, a hackney mare was supposed to be suffering with the same affection, in taking into consideration the symptoms that she had presented. Turned out to grass as being unthrifty, she had fair appetite, never refusing a feed of corn and was almost constantly grazing. Day by day she wasted away until she was so emaciated that she could not stand up. Her excretions were normal, the visible mucous membranes pallid. Pulse normal in number but weak. Temperature 100° F. Nothing abnormal on auscultation. She never passed parasites. She was destroyed, and, instead of tuberculous lesions, which were looked for, she was found in perfect health, except that in the colon and caecum thousands of strongylus tetracanthus were found. Tuberculin was not known then, and of course the animal could not be put under its test.

**PERIOD OF INCUBATION OF RABIES IN DOG** [By W. H. Williamson, M.R.C.V.S.]—This article relates to two cases which came under the observation of the author. One, a toy spaniel, was shown to him with symptoms of rabies. Only a few

days previous he had been bitten by a stray dog. The post-mortem confirmed the diagnosis. In the second case, it was a fox terrier, which also died with rabies. On inquiring about his history Mr. Williamson was informed that some nine months before he had been bitten also by a stray dog. A few days before his death he had a small abscess at the place where he had been bitten. The difference between the period of incubation and the length of time elapsed between the two cases is evidently most interesting and worth recording.—(*Vet. Record.*)

DISLOCATION OF THE THIRD CERVICAL ARTICULATION—DEATH [*By E. W. Hoare, F.R.C.V.S.*].—Lesions of this nature are seldom met with, and it is rare that even in more extensive injuries following runaways such body lesions are not more common. This was the case of a mare that ran away and received such injurious that when she was caught she was seen walking with a staggering gait and depressed head, which she was unable to raise; it was turned to the left side. The right side of the neck was much swollen and very tender to the touch, and a distinct bony enlargement could be detected at the upper part of the cervical region. The respiration was stertorous, pulse slow and feeble, pupils dilated, and entire inability to swallow liquids or solids. The animal died. At the post-mortem, besides the lesion of the skin and muscles of the cervical region, principally on the upper regions of the neck, it was found that the third cervical vertebra was dislocated upwards and towards the right, the right anterior articular facette being completely above that of the dentata. The spinal region showed its coverings discolored, while the cord itself was in a semi-fluid condition, of the consistency of cream.—(*Ibid.*)

INTESTINAL OBSTRUCTION IN THE HORSE [*By E. R. Gibson, M.R.C.V.S.*].—Cases of intestinal obstruction in the horse do not prove generally of so much interest in a clinical point of view, except at the post-mortem, while at times, besides the presence of calculi, that of other foreign substances come to give the explanation of all the symptoms and of the failure of all medication. This case of the author illustrates this, in which a horse died after a usual case of colic and in which the following was revealed at post-mortem: "Small quantity of fluid in the stomach, pultaceous injecta in the small intestine, large colon distended and contents dry; the whole of intestinal mucous membrane much inflamed. Midway along the small colon there was a hard unyielding mass, which, on removal, proved to be a piece of rope 18 inches long, made up of 10 or 11 strands, inter-

woven, knotted at each end, and from each knot were dependent about 40 smaller strands 8 or 9 inches long and in form of a tassel ; weight on removal four pounds."—(*Ibid.*)

### GERMAN REVIEW.

By W. V. BIESER, D.V.S., New York City.

**OBSTRUCTION OF THE OESOPHAGUS IN CATTLE.**—The author, on January 7th, saw an ox with the following symptoms : Oedema of the neck (phlegmon), respirations 14-15, pulse 60, temp.  $38.2^{\circ}$  C., prostration, refusal to take food. The tension of the threatening glistening oedema had already been relieved by free incision before my arrival. Next day the swelling had spread, respiration had fallen to 12, with expiratory dyspnoea, temperature had risen to  $39.2^{\circ}$  C., and the ox died on the evening of the third day of the illness. *Autopsy.*—The inflammatory oedema, which extended clear down to the chest entrance, consisted of a yellow serous, haemorrhagic infiltration of the subcutis. There were also catharral stomatitis and oesophagitis. In the oesophagus below the pharynx lay a half macerated raw potato. The periesophageal connective tissue was infiltrated with a serous and bloody exudate clear down to the abdominal cavity. There were pericarditis and fibrinous pleurisy, 100 g. of a serous exudate in the pericardial sac ; the heart muscle was in a state of fatty degeneration. There were acute tracheo-bronchitis, hyperæmia of the lungs, commencing peritonitis, swelling of the spleen, and acute gastro-enteritis. A well-marked case of malignant oedema, the site of infection being the oesophagus and the cause of infection the macerated potato.—(*Berl. Thierärzt. Woch.*)

**MARKED DILATATION OF BOTH STENO'S DUCTS IN A COW.**—In the slaughterhouse at Palermo, G., during the slaughter of a fat twelve-year-old cow, found at the lower border of the lower jaws, soft fluctuating swellings of the size of an egg, which disappeared upon pressure and reappeared when the pressure was removed. Autopsy showed that Steno's duct in its commencement at the parotid gland was thickened, but became dilated to cystic proportions in its facial region—(the size of an apple)—that it narrowed itself into a canal at its buccal extremity. Upon pressing the swelling saliva flowed from the buccal extremity. According to the statement of the owner the cysts had been present since birth.—(*Schweiz. Archiv für Thierhlk.*)

TRANSMISSION OF ANTHRAX THROUGH HIDES AND LEATHER.—G., of Palermo, dried parts of the skin of a cow that had died of anthrax, salted them, tanned them, and essayed cultures from the individual pieces for the purpose of seeing whether they were infectious or not, and discovered, 1st. That long continued drying and salting of the hides of anthrax stricken animals are powerless to prevent infection. 2d. That placing the hides in lime solutions and scraping off the superficial layers of the skin preparatory to converting the hide into leather do not diminish the virulence of the poison. 3d. A 40 days' treatment of the hide with tanning materials did not suffice to destroy all the anthrax germs contained in the hides. Therefore leather is also a possible source of anthrax.—(*Berl. Thierärzt. Woch.*)

STRONGYLUS SUBTILIS A HITHERTO UNKNOWN HUMAN PARASITE—HABITAT, EGYPT.—This parasite was found in the contents of the small intestine of inhabitants of the plains near Cairo and Alexandria. The worms are extraordinarily fine and soft, only appreciable by the microscope. The females are more numerous than the males. The male is 4–5 mm. long, being 0,007 mm. wide at the thickest part of the body. The female is 5–7 mm. long, the greatest diameter being 0,009 mm. The internal anatomy agrees practically with that of our well-known strongylides.—(*Berl. Thierärzt. Woch.*)

NATURAL RESTITUTION OF A TORSION OF THE UTERUS IN A COW.—P. diagnosed in a 7 months pregnant cow a torsion of the uterus to the left. He could with difficulty insert his finger into the stenosed cervix. As he had no assistance at the time to throw the cow he had to delay the operation for a few hours until help arrived. Meanwhile the cow turned herself two or three times upon the right and the left sides respectively. Before each decubitus she rested for a certain length of time upon her knees arching the rear part of the body. Severe labor pains then came on and after lying down for a few minutes a foetus was born, showing that natural restitution of the uterus had taken place.—(*Schweiz. Archiv für Thierhlk.*)

INFLUENCE OF VENESECTION UPON THE SPECIFIC GRAVITY OF THE BLOOD.—The specific gravity of the blood may vary in different localities of the body, although the specific gravity of the blood from the earlaps is the same as that of the body. The author found after venesection a fall in specific gravity of from 7 to 11 per cent. Six hours later it gains in specific gravity, reaching the normal in 12 hours again. The author reasons out the theme as follows: Undoubtedly after venesection, in

order that the loss in the capillaries may be made good, a soaking up by capillaries of the lymphatic fluids in the lymph spaces outside takes place. Then in all the blood-making organs a regeneration of corpuscles takes place, so that in 6 to 12 hours the blood regains its normal specific gravity and may in some cases even exceed it.—(*Berl. Thierärzt. Woch.*)

**BACTERICIDAL POWERS OF DOG'S BLOOD WITH SPECIAL REFERENCE TO THE INFLUENCE OF LEUCOCYTES THEREON.**—D. and H. have made very interesting experiments upon the germicidal power of dog's blood. As they discovered that circulating dog's blood had a high bactericidal power, they tried to discover which element of the blood possessed this property. Upon using the blood serum no matter how obtained, *i. e.*, blood minus most of its corpuscles, only faint bactericidal powers were noted. Upon filtering uncoagulated circulating blood, so that only the leucocytes remained behind upon the filter, there was practically no germicidal action at all of the filtered blood. Now inasmuch as the filtered dog's blood differed from the unfiltered blood merely in the absence of the white corpuscles, one must regard these as the possessors of the germicidal power. If one examined a drop of filtered blood containing organisms under the microscope, in a few hours a marked increase in the number of organisms can be seen. If one adds a drop of circulating unfiltered blood thereto, one will find in 10 to 20 minutes that the micro-organisms have been taken up by the leucocytes; those taken up by the leucocytes invariably perish or degenerate (phagocytic action); whereas those micro-organisms which are still free of the leucocytes show no traces of degeneration.—(*Berlin. Thierärzt. Woch.*)

#### ITALIAN REVIEW.

**BOTS IN HORSES.**—Prof. Perroncito, of Turin, has already recommended the administration of sulphur of carbon to relieve horses from bots, which in some cases are so detrimental to general health. Given in capsules, this drug possesses such parasitical properties for other parasites (the phylloxera, for instance) that experiments with it were justified. Two Italian veterinarians have used it and obtained excellent results. In one instance four capsules of 12 grammes of sulphur of carbon were given an hour apart, and followed the next day with castor oil, the experiment being carried on upon a herd of 15 colts. An hour after the administration of the drug, there was abundant

salivation, in some nervous excitement, in all a comatous period. Three days after the expulsion of the bots began ; they were all dead. Some 592 were collected from the 15 patients. In another experiment the same result was obtained on 10 colts. These, however, did not receive the oil ; the bots were also expelled after three days. Another veterinarian obtained a similar result with only three capsules of 10 grammes each. From these Perroncito concludes that capsules of 10 grammes for adult animals and of 8 grammes for colts, in numbers varying as to size, two or three will be the dose to use to relieve horses from bots.—(*Giorn. della Reale Societa ed Acad. Veterin. Italiano.*)

**GLANDEROUS APPENDICITIS**—[By M. B. Vecchia.]—To the eight cases already recorded by Boschetti, Miscellone and Kostoff, the author adds the observation of four new cases. Here is one of them as a type : A horse is killed as glanderoous. At the post-mortem a truly typical appendicitis of glanders is found. Numerous and characteristic nodules of glanders were on the serous and under the mucous membrane of the point of the caecum ; in the eight last centimetres of the mucous membrane ulcerations were found. The nodules were at various stages of development,—some translucent, others in caseous or calcareous degenerations. Another case is also peculiar. A horse died with experimental tetanus. Clinically he was free from glanders. Malleined, he had hyperthermia, was considered a suspect. At the post-mortem the lesions of appendicitis of glanderoous nature, nodules and ulcerations were present and demonstrated the value of mallein and the necessity of attentive exploration for the detection of cæcal glanders.—(*Ibid.*)

## BIBLIOGRAPHY.

**INDUSTRIES OF ABATTOIRS : KNOWLEDGE, PURCHASE, KILLING OF ANIMALS, ETC.**  
1 Vol. 16 mo, 356 pages, with 77 figures in the text. (*Les industries des abattoirs, connaissance, achat et abatage du bétail, préparation, commerce et inspection des viandes, produits et sous produits de la boucherie et de la charcuterie.*) By L. Bourrier, Sanitary Veterinarian.

The slaughter-house is the last place reserved to farm animals. There they are killed, neatly prepared, cut and sold for consumption. But before reaching our shops, the meat passes through the hands of a whole world of workers. To the sinister work of the killer, succeeds a series of operations composing the art of the butcher. After a general study upon abattoirs and the trade of butchers, the author passes successively in review cattle,

calves, sheep, goats, horses and swine: for each he studies the purchase and knowledge of the various breeds, the killing, preparation of carcasses, the remains, the skins, and the accessory products. Indeed outside of the consumable parts, the killed animal furnishes products whose value and use present great importance. What becomes of the skins, blood, fat, horns, bones, and other parts? Nothing is lost, everything has its use.

Mr. Bourrier examines afterwards the meat, its various categories, qualities and preservation. He closes by the sanitary inspection of meats, so important in the hygienic point of view. A long duty at the abattoirs of la Villette, as inspector, has afforded him, better than to any other, the facilities of obtaining all the useful information he has collected.

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LEHRBUCH DER VERGLEICHENDEN PATHOLOGIE UND THERAPIE DES MENSCHEN UND DER HAUSTHIERE. (Treatise of comparative pathology and therapeutics of man and domestic animals.) By Dr. G. Schneidemuhl, Prof. of Veterin. Med. at the University of Kiel.

We have received the second part of this work, which treats successively of intoxications, of the diseases produced in men and animals by parasites, of constitutional and of cutaneous diseases. The work promises to be one which will render great service to the physician as well as to the veterinarian, as it will give to both an opportunity to obtain valuable information in the comparative pathology of each class of patients. The first intention of the author was to publish the work in three parts, but he announces that the original plan is changed and that four parts will complete the work. The house in Leipzig, Von Wilhem Engelmann, are the publishers.

#### BOOKS AND PAMPHLETS RECEIVED.

*Rapports et compte rendus du 6<sup>e</sup> Congrès Internationale de Médecine Veterinaire.*

*U. S. Depart. of Agriculture—Experiment-Station Record.*

*3<sup>e</sup> Congrès Internationale d'Agriculture de Belgique.*

*10th and 11th Reports of the Bureau of Animal Industry (1893-1894).*

*Iowa Agricultural College Experiment-Station.*

*Tuberculosis Investigations.* By Dr. D. E. Salmon.

*Fowls, Care, and Feeding.* By G. C. Watson, B. Agr. M.S.

*Farm Animals of the United States.* By Henry A. Robinson.

*Experiment-Station Record.* By A. C. True, Ph. D., etc.

## SOCIETY MEETINGS.

### PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION.

The members of the P. S. V. M. A. assembled in the Y. M. C. A. building, Reading, Pa., and were called to order at 10.15 A.M. by the President, Dr. W. H. Ridge.

At roll-call the following members responded: Drs. Allen, Benner, Collins, Harger, Hart, Helmer, Hoskins, Houldsworth, Lusson, J. C. Michener, Ridge, Noack, G. B. Raynor, T. B. Raynor, Bachman, Dreibelbis. Visitors: Drs. Burkholder and Hogg.

The President then introduced the Mayor of Reading, Mr. Weidel, who warmly welcomed the Association to his city. He spoke of his city as of growing importance in convenience as a conventional city, and in that connection offered us the services of the police for protection should we need it. In reference to the work of the board of health, etc., he intimated that any layman, of his color, politically answered as a meat inspector for his city as long as there was no complaint made by the public, etc.

Dr. Hoskins, who responded in behalf of the Association, thanked the Mayor for the warm words of welcome he spoke. He briefly explained the domain of the veterinarian, the line of work he is peculiarly fitted to perform and informed the Mayor of Reading that it was his duty as guardian of the health of his subjects to provide for his people the best food obtainable, and concerning meats, etc., this could only be secured under the eyes of a man specially trained for the purpose.

Applications for membership: Dr. Geo. Jobson, Jr., Oil City, and W. Howard Wilson, Hatboro. The Board of Trustees reported favorably and they were elected by acclamation.

Dr. C. H. Magil, who handed in his resignation at the last annual meeting, was, with the resignations of Drs. Augustus Koenig, J. C. Blaker, and H. J. Clelland, accepted, upon motion by the association. The President asked their certificates to be returned to the Association.

The matter of changing the day of meeting for this Association was brought up, discussed by Drs. Hoskins, J. B. Raynor, Hart and Noack.

Drs. Harger and Felton then offered the following: "*Resolved*, That the name of the P. S. V. M. Association be changed to Pennsylvania State Veterinary Association."

Under unfinished business the resolution that section 2, Art.

V, of By-Laws be stricken from the by-laws, by W. S. Kooker, W. L. Zuill and S. J. J. Harger, was brought up, and, after considerable discussion and loss of valuable time, it was laid over until annual meeting. The resolution of Drs. Ridge and Zuill from last annual meeting was also laid over until the next meeting.

The Dr. Williams certificate matter was called up, and the committee being unable to report was continued until next morning.

Dr. W. H. Hoskins was then called upon for a report on the work done by the Board of Veterinary Examiners. Discussion postponed until after the report of the Committee on Legislation.

Dr. Hart being called upon for a report of the Committee on Legislation, he said that the committee were unable to get together, consequently he could make no report.

The discussion on the report of the Board of Examiners was then taken up, opened by Dr. Pearson, who thought, since the amount of money allowed by law was insufficient to cover the expenses of the board for their work and that the offering of an amendment to the act would jeopardize the very law, he did not favor offering an amendment at this time, that, inasmuch as the act was in reality one of this association's offsprings, the association ought to take some steps to alleviate their sufferings until their services were better recognized.

Dr. Harger thought that the Association should give financial aid until legislation could be secured to satisfy that end. Drs. Helmer and Hart did not think it advisable to ask for more money from the legislators, as it would jeopardize the whole law. Dr. Harger thought that when the Legislative Committee made their pledge they were sincere, and he moved that the Legislative Committee be authorized to take the necessary steps to procure contributions to help defray expenses of Veterinary Medical Examiners. It carried.

Adjourned for luncheon.

Called to order at 2 P. M. by President Ridge, who called upon the Corresponding Secretary for his report, which he read, and it was received and ordered filed.

Reports were received from County Secretaries representing Bucks, Erie, Bradford, Crawford, Northampton, Lackawanna, Lancaster, Montgomery, Philadelphia and Venango.

The Committee on Sanitary Science and Police (Dr. Pearson chairman) made a verbal report, mainly on the work done by the State Live Stock Sanitary Board. Reports of outbreaks of

some contagious or infectious disease in almost every county. In Jefferson County he spoke of an outbreak of a "venereal disease," in which the prominent symptoms were, urethritis, ulcers on end and side of penis. In a mare that was covered by an affected stallion, vesicles appeared in the vagina with the accompanying irritation of the part, succumbed to treatment with creoline injections. The stallion was treated by different veterinarians, but they failed to relieve him, he dying about four months after first being noticed. He did not think it to be eldorine. He reported cases of anthrax, and quite a number of cases reported as anthrax were not anthrax but simply "red water." Saw about 35 cases of glanders. Cases of true rabies appear from time to time, a large number of reported rabies not being rabies but simply a dog at large, away from home or his master, chased by man and other dogs until excited. One case reported to him proved to be true rabies; a dog bit other dogs; —all dogs known to be bitten were shot with the exception of one, which afterwards went mad, bit other dogs, pigs and a steer, the latter going mad. The pigs developed similar symptoms; —everything bitten by this dog went mad or become rabid. It was traced through five generations of disease, finally quelled by a thorough inspection and destruction of the suspected. A veterinarian of Bloomsburg was bitten and died three weeks afterwards from hydrophobia, he himself nor the physician in charge of him not believing in the Pasteur treatment. Five persons in Allegheny County have died from the disease. Hog cholera has been a source of great loss in Centre County, where between 350 and 400 hogs died. Premises were disinfected at the expense of the S. L. S. Board. Tuberculosis, like the poor, is always with us. He regretted that they did not have the co-operation of more of the stock-owners. The Board has examined about 2,400 head of cattle and found about 25 per cent. affected, in some parts of the State they have not found any tuberculosis and in other parts have failed to find a herd free from the disease. He requested veterinarians to send specimens or parts to the laboratory which the department has equipped at the U. of P. He reported a peculiar form of pneumonia in cattle; he doubts whether it is contagious, liketuberculosis, but gives no reaction to the tuberculin test. It's a form of chronic catarrhal pneumonia, characterized by the formation of fibrous tissue, affects whole herds, probably due to some local trouble. Diseases of fowls is given more attention. It is one of the most important industries, about \$8,000,000 being invested in poultry, with a

production in value of about \$14,000,000. Poultry yards yield as much as the wheat fields. 10 per cent. die annually from disease. He is getting up a report for the Secretary of Agriculture; wishes the veterinary profession to report outbreaks of diseases, abortion, etc.

A vote of thanks was extended Dr. Pearson for his able report.

There were no communications, but there were telegrams from Drs. Sallade and Lockwood regretting their inability to attend.

Dr. Lusson reported a case of rabies where the dog had been with the family for about a week; no bad results followed to the family.

Dr. Hoskins guarded the members against the indiscriminate use of the terms hydrophobia, epidemic, etc., as they belong to the human family. Rabies and epizootic are more correct.

Dr. Felton reported a case where a puppy had bitten a dog, dog showed unmistakable symptoms of rabies; boy remains healthy; cultures made at the bacteriological department of the University of Pennsylvania proved it to be rabies.

Reading of papers being next in order, the Chair called upon Dr. J. C. Michiner for his paper on "Parturient Apoplexy"; Dr. Ross, "Parturient Apoplexy"; Dr. Allen, "Acanthelid"; Dr. Felton, "Canine Distemper" \*; Dr. Helmer, "Homeopathy versus Regular Practice" \*; Dr. Hoskins, "Pyroktanin, or Methol Violate." The papers were exceedingly interesting and instructive.

Discussed by Drs. Helmer, Hoskins, James, G. B. Raynor, T. B. Raynor.

It being almost 6 p. m., a large number of the members anxious to meet the train, the discussion was brought to a close, and the meeting adjourned.

W. G. BENNER, *Recording Secretary.*

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VETERINARY MEDICAL ASSOCIATION OF NEW YORK COUNTY.

The regular monthly meeting of the Veterinary Medical Association of New York County was called to order Wednesday, Nov. 4, 1896, at 8.45 p. m., by the President, Dr. Huidekoper, at the Academy of Medicine.

On roll-call the following members responded, viz.: Drs.

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\* Printed elsewhere in this number.

Delaney, Ellis, Foy, Giffen, Gill, Huidekoper, Hanson, Jackson, Lamkin, MacKellar, Neher, O'Shea and Robertson.

The minutes of the previous meeting were read, and, after slight correction, approved.

The Board of Censors (Dr. Gill, Chairman) reported favorably on the names of the gentlemen who had applied for membership; but, owing to a slight error in the form of applications, the Chair directed that the names be withdrawn for action until the application be presented in proper form. The board also recommended to the society that the Secretary be authorized to notify all members eighteen months in arrears that if said arrears were not settled by the next meeting their names would be dropped from the roll. Moved and seconded that the report be accepted. Carried.

Dr. Gill reported a case of osteo-porosis, which was followed by an interesting discussion, opened by Dr. Hanson, and participated in by Drs. Neher, Robertson and others.

Dr. Giffen next reported a case of haemorrhage from the lungs in a horse, with recovery, to be followed by a relapse ten days later, which resulted in death in ten minutes from time of attack. This case was freely discussed by Drs. Robertson, Gill, Neher, and Hanson.

Dr. Robertson then reported a post-mortem which revealed a case of osteo-sarcoma, which he had not had the opportunity of seeing alive, but which had been diagnosed as a case of pharyngeal paralysis. A very interesting discussion followed by Drs. Gill, Hanson, Jackson and others.

Dr. Gill next reported a case of prolapse of the vagina in a bitch, and Dr. Jackson a case of fracture of the facial bones due to a runaway.

The Judiciary Committee (Dr. O'Shea, Chairman) reported that the committee had a warrant out for one illegal practitioner, to be served as soon as they can locate his present abode, and that they have other cases on which they are going to proceed immediately, and that in reference to the case of compelling a practitioner to remove an assumed degree from after his name, the committee would consult the association's counsel before proceeding.

Moved and seconded that the report be accepted. Carried.

The Committee on Board of Health Question (Dr. Robertson, Chairman) asked permission to report progress, promising to have a written report for December meeting.

Moved and seconded that the report be accepted. Carried.

Resolutions offered by Dr. Hanson, and signed by Drs. O'Shea and Gill, that an amendment be made to Art. IV. of the Constitution in reference to the annual election of officers, so as to correspond to change in Art. XIII. of the By-Laws, to read as follows : "Annual election shall take place on the evening of the first Wednesday in December." Moved and seconded that the resolution be accepted. Carried.

Moved and seconded that the Secretary be authorized to purchase a rubber stamp, to be used to stamp on the face of application blanks, that the initiation fee of five dollars must accompany the application for membership. Carried.

Moved and seconded, that the Secretary be authorized to notify members that the election of officers will take place on the evening of the first Wednesday in December. Carried.

Moved and seconded that the meeting adjourn. Carried.

ROBERT W. ELLIS, D.V.S., *Secretary.*

#### COLORADO STATE VETERINARY MEDICAL ASSOCIATION.

The semi-annual meeting of this Association was called to order at 3 P. M., Oct. 28th, at the office of the President, Dr. S. Bock, No. 1250 Glenarm Street, Denver, Colo. The President, Dr. Sol. Bock, in the chair.

The following members answered to roll-call : Dr. S. Bock, Dr. F. W. Hunt, Dr. Chas. G. Lamb ; Dr. Chas. Gresswell ; Dr. W. A. Rushworth ; Dr. E. Pouppirt, all of Denver, and Dr. D. P. Frame of Colorado Springs. Dr. A. J. Savage, of Colorado Springs, visitor.

The principal object of calling the meeting at this time was to consider the matter of legislation in behalf of the profession in this State this winter. The old bill which was introduced two years ago was taken up and reconsidered, and after some few alterations in the phraseology, and one or two amendments were made to it, it was considered satisfactory. The principal amendment made was that of Sec. 5, permitting those non-graduates who have practiced continually in the State for five or more years to register under the new law.

Moved by Dr. Gresswell that the regular meetings of this Association in the future be held on the Tuesday following the first Monday of January and July of each year. Carried.

Dr. Frame proposed the name of Dr. A. J. Savage for membership, and he was at once elected a member.

Drs. Gresswell and Rushworth were appointed to read papers on glanders at the meeting in January.

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Dr. D. P. Frame was appointed to superintend the introduction of the proposed new bill in the legislature this winter and to represent the Association in the consideration of the same.

It is proposed now to hold regular semi-annual meetings of this Association, as we have now been organized over two years and have been making some effort to secure legislation in our behalf. We hope to succeed in our effort this winter.

The next meeting of this Association will be held in Denver, January 5th, 1897. D. P. FRAME, M. D. C., *Secretary.*

#### PENNSYLVANIA STATE BOARD OF VETERINARY EXAMINERS.

A special meeting of the State Board of Veterinary Medical Examiners was held in Harrisburg, in the State Capitol, October 20 and 21. Five applicants were examined for a license to practice in the State of Pennsylvania, of whom three were successful: W. H. Yingst, Harrisburg, Pa.; F. H. Schneider, Ashland, Pa., from the New York Veterinary College, and J. H. Burt, Union City, Pa., Ontario Veterinary College.

The members of the Board present were: Drs. W. H. Hoskins and S. J. J. Harger, of Philadelphia; J. C. McNeal, of Pittsburgh; and J. W. Sallade, of Pottsville.

The next special meeting will be held December 15th and 16th in order to examine new applicants, as well as those who failed at the June examinations.

For any information applicants should address the Secretary, 205 N. 20th Street, Philadelphia.

S. J. J. HARGER, V. M. D., *Secretary.*

#### CORRESPONDENCE.

##### A DEFENCE OF THOSE "PECULIAR VIEWS FROM A HIGH OFFICIAL."

COLLEGE PARK, MD., Nov. 7, 1896.

*Editors American Veterinary Review:*

GENTLEMEN:—Have just read the article in the November REVIEW, styled "Peculiar Views from a High Official"; and think, even though the views may be "peculiar" or may bear criticism, that there is more truth in those views than said article seems to give the gentleman credit for. He (Major Alvord) says, "a distinction must be made between diseased cows and sick cows." This I think very well put, for can this Govern-

ment afford to recompense each owner for every diseased animal he may possess? Decidedly not, nor have we any right to compel a man, by forced legislation, to bear this injustice.

If we knew the percentage of tuberculous animals to be as small as the records show contagious pleuro-pneumonia cases to have been, then we could and ought to deal with it in the same manner, but how extensive this disease is we do not know. Before we can use such radical measures with this disease in cattle as were used against pleuro-pneumonia a few years back we must also legislate against the human race, dogs, cats, hogs and birds, and not discriminate against the cow.

Contagious pleuro-pneumonia was fought from its introduction into the country by local and a little later by national legislation, and never was it allowed to go much beyond the Eastern States. Not alone that, but it was confined to a single species of animal. Here, however, we are confronted by a disease known to almost all species of animals, capable of transmission by foul air, impure water or contaminated food, and, if we believe some of our best authorities, seldom by heredity.

The predisposition is without doubt transmitted to the offspring, but if hygienic measures are observed, that predisposition is bound to be overcome in the majority of cases.

The point made by Major Alvord that the sanitary inspection of dairies is of far more importance than the destruction of tuberculous herds is, to my views, well taken.

Granting that more disease is contracted by other conditions than by hereditary tendency (and I do not think this asking too much), then it is evident that only by strict sanitary and hygienic measures can the disease be eradicated.

Our legislation if confined to the slaughter of diseased and sick animals is worthless, though expensive, unless we have rigid sanitary laws to back it up.

There is no doubt in my mind that the milk from dairies of uncleanly management is responsible for a greater share of the mortality, especially of children, than from the infection by tuberculous animals.

The following I quote from an editorial in the *Medical Review*: "Public hygienic measures, whose utility can be demonstrated without a doubt, should be carried out strictly and without compromise. Just as soon, however, as a proper measure of reform cannot be backed up with a sufficiently reasonable proof as to its necessity and usefulness, public hygiene may create the impression in certain circles as being annoying and meddlesome.

There can be no doubt that, generally speaking, the milk from tuberculous cows should be avoided as a nourishment. \* \* \* It is true that, even where the udders are not infected, chemical products due to the tuberculous process in some other part of this body may enter the circulation in greater or less quantity, and thus contaminate the milk as well as other secretions. But the main question is: Are there exact and conclusive experiments on record from which it is evident that milk under such conditions is injurious or objectionable as a nourishment; is not the assumption that such milk is unfit for use an hypothesis that needs to be proven? Public hygiene must be based upon absolute facts, not upon hypotheses, although they may have in their favor some arguments that find support in scientific truths."

This seems to bear out in general the views expressed by Major Alvord, and I do not believe its author or Major Alvord or any one interested in the welfare of stock and public health would advocate any compromise in the matter if there was the slightest possibility of stamping out the disease by such legislation as seems to be desired by veterinarians on the Pacific coast.

Pure air, pure water and sunlight are free to everyone who cares to take advantage of them; and it certainly seems more economical, less troublesome and equally, if not vastly more, effective and lasting when coupled with the recommendation of Major Alvord for the slaughter of all animals sick of tuberculosis, than by the adoption of a compulsory tuberculin test.

But I should like to ask, Mr. Editor, to whom are we indebted for our knowledge of the existence of the bovine tuberculosis, the diagnostic tuberculin, for serum-theraphy and most of our bacteriological and therapeutic knowledge but to our friends on the other side of the Atlantic whom we are invited to ignore? To all appearances these criticisms directed at that "High Official" seem to indicate personal rather than scientific motives. However, there is room for much discussion before radical measures are taken to enforce "Tuberculin Reform" rather than that free-for-all "Sanitary and Hygienic Reform."

Very respectfully,  
SAM'L S. BUCKLEY.

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SECTIONAL WORK IN THE U. S. V. M. A.

KANSAS CITY, KANSAS, Nov. 20, 1896.

*Editors American Veterinary Review:*

DEAR SIRS:—Your comments concerning the future work to be carried on by the U. S. V. M. A. in an editorial in the

October number of the REVIEW were timely and I trust you will give further editorial consideration to this subject.

The future course of the Association should be well understood by applicants for membership, and if its work is to be directed along purely educational and sanitary lines, the great body of the present membership will feel as though it related to their labors indirectly. They will continue to withdraw or drop out, realizing their more immediate interests will be better subserved through local and State organizations. The United States, or more properly the American Medical Association, has a very much larger membership than the U. S. V. M. A., and it successfully conducts its meetings by holding general sessions which interest all its members for one part of the day, and special sessions during another part of the day in sections for the several divisions or special phases of medical practice, and there is no good reason why our Association cannot profit by the experience of the A. M. A. Their membership is made up of individuals distributed throughout the United States just the same as ours. Editorial in the November *Jour. of Comp. Med.*, p. 788, alluding to this matter is along the right line, but the subject is worthy of much fuller discussion. I am fully persuaded that the best interests of the profession in general, and our Association in particular, will be subserved by keeping all lines of veterinary interest within the one fold. This cannot be done if one particular line is allowed to monopolize the major portion of time and energy. What think you of making the sessions general during the forenoons of each day, or perhaps the second and third days, and sectional during the afternoon? I trust you will encourage discussion along this line,

S. STEWART.

[The REVIEW thanks Secretary Stewart for his free expressions upon this subject and invites like communications from others of the workers and thinkers, feeling assured that a full discussion of the important subject can but result in good to the profession and the Association.]

WHY NOT FOR VETERINARIANS?—A Vaginal Injection for Leucorrhœa.—Lirola (*Revue Internationale de Médecine et de Chirurgie*, September 10, 1896) recommends the following formula: Tannin, 6 parts; alcohol and creosote, of each 3 parts; water, 24 parts. M. A tablespoonful is to be added to a quart of warm water, which may be injected as often as three times a day.

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**NEWS AND ITEMS.**

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Dr. L. MCLEAN, of Brooklyn, N. Y., has recently returned from a visit of pleasure to Richmond, Va.

HOG CHOLERA is especially severe in Northern Iowa, and is reported at numerous points throughout the corn belt.

WHY DON'T YOU send the REVIEW that last interesting case that you treated, especially if you held an autopsy? There are others.

THE LEGISLATURES OF MANY STATES will be asked at the coming sessions to make laws for the protection of their citizens against veterinary empirics.

IN 1892, according to government reports, Michigan's horses were valued at \$40,757,393. In 1896 the value is placed at \$20,340,685, a decline of fifty per cent.

THE next meeting of the Virginia State Veterinary Medical Association and the State Board of Veterinary Examiners will be held in Staunton, January 5th, 1897.

"REPORTS OF CASES" is a department of the REVIEW which dispenses a great deal of practical information. Theory takes second position in that department.

L. L. LEWIS, D. V. M., formerly demonstrator of anatomy and house surgeon at the Iowa Agricultural College, has been appointed veterinarian at the Oklahoma Station.

SWITZERLAND IMPORTS CATTLE to the value of \$5,000,000 annually. Austria and Italy are the main sources of supply with next to no American beef bought direct in this country.

HELP ALONG YOUR PROFESSION.—The best method of doing so as an individual is to see that your fellow-practitioner is a subscriber to one or all of the veterinary periodicals of this country.

DR. G. HOWARD DAVISON, of Millbrook, and Lyman P. Haviland, of Camden, have been appointed members of the Board of Control of the New York State Experiment Station at Geneva.

FARRIERY is being conducted at the Kansas City Veterinary College. It will extend over a period of three months. A general interest in this subject is being taken by the horseshoers of Kansas City.

"VETERINARIANS AS SANITARIANS," the interesting paper

read before the New York State Veterinary Medical Society by Dr. Claude D. Morris, of Pawling, will be published in the January REVIEW.

JUDICIARY COMMITTEE.—Why should non-registered men fill the positions of meat inspectors in New York City? Is not this against the law for non-registered men to practice any branch of veterinary medicine?

THE LOUISIANA STATE EXPERIMENT STATION has just issued "Bulletin No. 43," which consists of a report by Veterinarians W. H. Dalrymple and S. B. Staples upon "Bovine Tuberculosis in North Louisiana."

"INFECTIOUS OPHTHALMIA OF CATTLE" is the title of a paper read by W. F. Weese, V. S., of Ottawa, before the late meeting of the Illinois State Veterinary Medical Association, which will be published in the January REVIEW.

THE next quarterly meeting of the Missouri Valley Veterinary Association will be held in Kansas City, Mo., December 9, 1896. Several interesting topics will be discussed by essayists, one of which is the "Control of the Spread of Contagious Diseases through Public Stock Yards."

DR. GEO. H. BAILEY, State Veterinarian of Maine, said in a recent interview that he believed his State was freer of tuberculosis than any other New England State; that the percentage of diseased cows would not reach 2, and that Dr. Choate's estimate of 15 per cent. was four or five times too high.

NEWTON BRYANT, of Kansas City, Mo., was arrested at the Madison Square Horse Show on the evening of the 11th of November, at the instigation of the New York County Veterinary Medical Association, charged with practicing veterinary medicine without having registered or possessing proper certificates.

HASN'T LEARNED OF HIGHER EDUCATION.—The following letter has been submitted to us by a New York gentleman, received from a Massachusetts correspondent: "Dear sir: I am Sorry to disturbe once more. I wish to take a Short Coarse in a Veterinary School do you know of one in new York, that gives Short Coares."

HORSESHOERS' EXAMINING BOARD.—The following gentlemen have been appointed by the Governor of New York to examine applicants for the license of horseshoer in this city: Veterinary member, Thomas M. Quinn; representing the master horseshoers, Thomas Carroll, of New York, and Robert Keenan,

of Brooklyn ; representing the journeymen horseshoers, Homer A. Grove, of Rochester, and Charles W. Kirk, of Albany.

**INFECTION BY PETS.**—Cats have been suspected of conveying the infection of diphtheria, and scarlet fever has been traced to them. To this may be added the unwelcome news that a health officer has reported a case of small-pox which has been brought about in the same way ; that is to say, by a cat from an infected house entering a neighbor's.—*Popular Science*.

**A VETERINARIAN'S MILITARY INVENTION.**—The Boston Sunday *Herald* of November 1st, contains a long descriptive article of a new military bit and bridle which is soon to be issued to the mounted troops of Massachusetts. It is the invention of Lieutenant Austin Peters, Veterinary Surgeon, First Cavalry. It has been adopted by the State, is entirely an original conception, and is stated to have many superior qualities over any other combination bit and bridle that has hitherto been in use. The inventor is a veterinarian well known to the fraternity everywhere.

**TUBERCULOSIS IN NEW YORK STATE.**—Dr. Frederick W. Smith and Owen Cassidy, comprising the State tuberculosis committee, have made a second report in which they regret they have no appropriation to pay inspectors and for cattle slaughtered and consequently can do but little work in eradicating tuberculosis in cattle. They report much good done in giving advice and thus preventing the spread of the disease. They cite cases of illness traced to tuberculosis in cattle, and instances where persons had sold tuberculous cattle to other individuals for the purpose of getting rid of them with as little loss as possible. The members of the committee each receive \$250 salary monthly.

**THE VIRGINIA STATE VETERINARY EXAMINING BOARD** met in Richmond, Nov. 2d, and issued certificates of registration to all persons in the State who were legally entitled to them. The time in which existing practitioners could become registered expired Oct. 31st. Hereafter any person who desires to begin the practice of veterinary medicine or surgery must pass a satisfactory examination before the board, before a certificate will be granted. Dr. W. H. Harbaugh, President of the Board, writes the REVIEW that any person who practices without a certificate will be prosecuted to the full extent of the law. He further says : " Those who were opposed to our law on the ground that we would have to register hundreds of ignorant

pretenders will be glad to learn that only 22 non-graduates are registered, and at least half of them were practising in the State many years before a graduate entered the State. Our law clearly defines what constitutes the practice of veterinary medicine and surgery, and this definition the board construed to apply to the past as well as to the present and future, and hence, those entitled to registration were restricted to persons who conformed to that definition."

**CO-OPERATIVE LIVE STOCK INSURANCE.**—In Italy the principle of co-operation for the insurance of horned stock is extensively acted upon—proof of its utility. The government has decided to award prizes varying from £120 to £80 for the most successfully-managed of these mutual societies, the object being to base thereon a scheme for general adoption. In France the cattle insurance companies are of two kinds: First, where the insured pay in advance a premium of so much per cent. upon the value declared. In ordinary years the society accords from three-fourths to four-fifths of the loss; in time of a calamity, only one-third. If the reserve fund swells newcomers are charged a higher premium. In this plan the policy holder is only certain of one fact—his risk is limited to his premium.

**SWINE PLAGUE IN INDIANA.**—Dr. A. W. Bitting, veterinarian at the Purdue Experiment Station, Lafayette, Ind., has issued a bulletin calling attention to the prevalence of swine plague in that State. We quote: "The disease is well disseminated in the State this fall and the season of greatest loss will soon be upon us. Every effort should be made to lessen its ravages as much as possible. An important factor in reducing the loss is to provide proper shelter, as all hogs with only a mild attack or having apparently made a recovery may take a relapse if exposed to a cold rain or a sudden change to rough weather. There are thousands of hogs now in a condition to become affected with pneumonia which would escape if given a little protection. Any shed which will keep off the rain and break the wind is sufficient. The floor should be dry, but little bedding is needed and that renewed frequently. Burn all litter and bedding once a week. Keep the herd divided so that crowding is impossible. Remember a strawstack is the most unfavorable place that can be provided for sick hogs. The essentials in prevention are good food, *pure water*, and *clean, dry quarters*. The station would be pleased to receive information from any source as to the presence of the disease and of all successful ways of checking it."

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